

DOCUMENT RESUME

ED 225 700

RC 013 679

AUTHOR Mulusa, Thomas
TITLE Structured Courses as a Strategy for Rural Development: A Case Study of the Kenya Farmer Training Centres.
PUB DATE Sep 82
NOTE 298p.; Doctoral Dissertation, University of Massachusetts. Appendixes are marginally legible due to light, broken type.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041)
EDRS PRICE MF01/PC12 Plus Postage.
DESCRIPTORS Adoption (Ideas); *Adult Farmer Education; *Course Organization; *Curriculum Design; Developing Nations; Educational Principles; Experimental Programs; Experiment Stations; *Extension Education; Foreign Countries; *Government Role; Nonformal Education; Policy Formation; Residential Programs; *Rural Development; Trainers
IDENTIFIERS *Farmer Training Centres (Kenya); Kenya

ABSTRACT

Using library search, structured interviews, mail questionnaires, and personal observations, Kenya's Farmer Training Centre (FTC) Program (a 30-year old experimental rural development strategy) was assessed in terms of its curriculum. How structured courses are utilized within the FTC program should be of interest to administrators, trainers, and curriculum developers. Nonformal education enterprises, the FTC included, have grown out of the same bedrock of curriculum theory as formal education; principles and methods developed for the one are relevant to the other. It was found that FTC objectives had not been clearly specified at national, regional, or institutional levels. The Ministry of Agriculture had failed to implement crucial reforms. Trainers showed lack of essential background information about their trainees, complacency concerning the nature of the FTC curriculum, and little commitment to remaining in the program. A major reorganization of the farmer training effort should be implemented which would reach larger numbers of small scale farmers and provide more relevant education than do existing small scale FTCs. The FTCs would become staff development and resource centers for the agricultural extension system in the proposed model. (BRR)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED225700

STRUCTURED COURSES AS A STRATEGY FOR RURAL DEVELOPMENT:
A CASE STUDY OF THE KENYA FARMER TRAINING CENTRES

A Dissertation Presented

By

THOMAS MULUSA

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

September 1982

EDUCATION

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Thomas Mulusa

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.

☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

RC 01 3679

Copyright
Thomas Mulusa

© All Rights Reserved 1982

STRUCTURED COURSES AS A STRATEGY FOR RURAL DEVELOPMENT:
A CASE STUDY OF THE KENYA FARMER TRAINING CENTRES

A Dissertation Presented

By

THOMAS MULUSA

Approved as to style and content by:

George E. Urch
Dr. George E. Urch, Chairman

David Kinsey
Dr. D. Kinsey, Member

F. Holmquist
Dr. F. Holmquist, Member

David R. Evans
Dr. D. R. Evans, Member

Mario D. Fantini
Dr. Mario D. Fantini, Dean
School of Education

DEDICATION

This study is dedicated to
the small farmer

ACKNOWLEDGMENTS

This dissertation represents the last step in a three-year program of study which began in September 1979. I am grateful to the African American Institute and the Kenya Government, which jointly financed the program, and the the University of Nairobi, which granted me three years' study leave to devote full time to it.

My stay in the United States for long periods when my country was going through difficult times put undue strain on my family and relatives. I greatly appreciate their patience and understanding while I was out of the country.

During my absence from Kenya, my duties in the Equator Project were performed by my colleague, Ms. Alice O. Waka. I am greatly indebted to her, not only for taking on these extra responsibilities with grace, but also for allowing me to use materials from the project and earlier joint projects in this study.

I would like to thank the members of my dissertation committee for their assistance throughout the program. They were Dr. George Urch, the chairman, and Professors David Evans and David Kinsey, from the Center for International Education, and Professor Frank Holmquist, from Hampshire College. They were a source

of inspiration for me throughout, and more particularly in 1980 and 1981, when I almost abandoned the program because of poor health.

It is not possible to name all the members of the Center for International Education who in various ways contributed to my intellectual and professional growth during the program. The Center is a remarkable experiment in international understanding. I learned a great deal at the weekly meetings and during the time I was coordinator of the Africa Regional Group and member of the Center Executive Committee.

Two Center members, Mr. David W. Kahler and Dr. Michael K. Koech, went out of their way to introduce me to the program. I greatly valued their advice and feedback on my program plans, comprehensive examination papers, and this dissertation. Mr. Kahler also served as student representative on my comprehensive examination committee. A self-help group of four, including Ms. Margaret Maxwell, Mr. Willard Shaw, and Mr. Michael Basile and myself, proved to be a great learning resource for me. Equally important was the support I received from other members of the Center for International Education and the University community, notably Mr. and Mrs. Joel Momanyi, Mrs. Barbara Koech, and Ms. Annie Myeni.

During my field research I received invaluable public service in Kenya, notably from Mr. E. K. Ruchiami and Mr. C. A. Mwango of the Office of the President, Mr. E. K. Gathiri and Mrs. I. Mulunga of the Ministry of Agriculture, and the various principals and instructors of the Farmer Training Centres who responded to this study. I wish to record special thanks to Mrs. Anna Kariuki for her kind offer to collect data for me at Wambugu when my work at that center was stalling. In the same vein, I wish to thank my colleagues Mr. Gilbert Lewa, of Mombasa Extra-Mural Centre, and Mr. George N. Reche and Mr. Jimmy Ruria, of Nyeri Extra-Mural Centre, who helped me to supervise the collection of data in their respective areas.

At different stages in this study I received typing services from Mr. Jackson Ongino of the University of Nairobi and Ms. Deborah Leonard and Ms. Pauline Ashby of the University of Massachusetts. The credit for the final typing goes to Ms. Nancy Arnold, who also assisted me in making the tables and drawings. Finally, I wish to acknowledge Dr. Isabella Halsted's contribution to this dissertation as editor. She did a magnificent job.

While so many have contributed to my program and this study, I am solely responsible for interpretation of the data and any opinions herein expressed.

ABSTRACT

Structured Courses as a Strategy for Rural Development: A Case Study of the Kenya Farmer Training Centres

September 1982

Thomas Mulusa, B.A., London; M.A., Nairobi;
M.Ed., Ed.D., Massachusetts

Directed by: Dr. George E. Urch

The African continent has lagged far behind other regions of the world in development, according to the Gross National Product, the Physical Quality of Life Index, and other measurements. To accelerate growth, African countries over the past three decades have used a variety of formal and nonformal educational programs. One such program, the Farmer Training Centre (FTC), serves as a strategy for rural development.

This study focuses on the FTC Program in Kenya, East Africa, with particular emphasis on the curriculum. The study suggests that nonformal education enterprises, the FTC included, have grown out of the same bedrock of curriculum theory as formal education. Principles and methods developed for the one are relevant to the other.

The following methods or research were used: library search, structured interviews, mail questionnaires, and personal observations by the researcher.

Four assistants collected data from trainees at four FTCs and the mail questionnaires were sent out to all FTC principals for distribution among their staff.

FTC literature reveals that the program has remained experimental for the past three decades. The Ministry of Agriculture has failed to implement crucial reforms that have been recommended regarding composition of FTC management committees, decentralization, staff development and remuneration, and the use of the FTC demonstration farm. Furthermore, FTC objectives are not clearly specified at national, regional, or institutional levels.

Trainers surveyed in the field showed lack of essential background information about their trainees and complacency concerning the nature of the FTC curriculum. They expressed little commitment to remaining in the program.

The study recommends a major reorganization of the farmer training effort. A field-based program of structured courses modeled along the lines of The Equator Project would reach larger numbers of small scale farmers and provide more relevant education than do existing small scale FTCs. In the proposed model, the FTCs would become staff development and resource centers for the agricultural extension system.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	v
ABSTRACT	ix
LIST OF FIGURES	xiv
LIST OF APPENDICES	xv
Chapter	
I. INTRODUCTION	1
Background	1
The Problem	5
Purpose of the Study	7
Significance	8
Outline of the Study	12
II. DESIGN OF THE STUDY	16
Introduction	16
Scope of the Study	16
The Researcher's Experience in Rural Development	20
Methods of Data Collection	21
Summary	29
III. THE THEORETICAL FRAMEWORK	31
Introduction	31
The Dichotomy Between Formal and Nonformal Education	32
Conception of Curriculum	35
The Influence of Educational Philo- sophies on Curriculum Design	41
Essentialism	42
Pragmatism	43
Perennialism	43
Socialism	44
Existentialism	46
Learning Theory	46
Learning Needs	48
Self Directed Learning	54
Summary	58

IV.	EDUCATION FOR DEVELOPMENT WITH SPECIAL REFERENCE TO FARMER TRAINING CENTRES	65
	Introduction	65
	Conventional Agricultural Extension . . .	67
	Group Approach to Agricultural Ex- tension	72
	Advantages of Nonformal Education . . .	76
	Farmer Training Centres	76
	Suggeststions for Post-Independence Reforms to Agricultural Education . .	80
	Summary	82
V.	THE ROLE OF THE FARMER TRAINING CENTRES IN THE DEVELOPMENT OF KENYA	86
	Introduction	86
	Evolution of the FTC Program	87
	Influences of the Kericho Conference . .	92
	The Agricultural Education Commission .	99
	The FTC Program During the Independence Era	105
	District Development Centres (DDC) . . .	115
	The short term objectives	116
	Long term objectives	117
	Reflections on the DDC Program	118
	The Group Approach	123
	The Soya Beans Group Extension Project in the Lowlands of Kisii	125
	Equator Community Education Project . .	132
	Summary	146
VI.	FTC TRAINERS AND TRAINEES: PRESENTATION AND ANALYSIS OF THE DATA COLLECTED IN THE FIELD	153
	Introduction	153
	Trainers' Background	154
	The sample	154
	Academic qualifications, profes- sional training and rank	156
	On-the-job training for FTC trainers	164
	Past employment	167
	The FTC Curriculum	174
	Learning needs	174
	Curriculum objectives	177

Effectiveness of the FTC Program. .	183
Trainers	185
Trainers knowledge of the trainees	185
Trainees background	191
Summary	204
VII. SUMMARY CONCLUSTIONS AND SUGGESTIONS FOR FURTHER INVESTIGATION AND DEVELOPMENT . .	207
Highlights of the Study	207
The Main Findings	214
Recommendations for Further Development.	217
Policy issues	217
Curriculum issues	220
List of Abbreviations	226
BIBLIOGRAPHY	228
APPENDICES	235

LIST OF FIGURES

2.1	Distribution of the FTC Included in the Study	25
3.1	Ideal Type Models of Formal and Nonformal Education	30
3.2	Curriculum Dimensions	40
3.3	Definition of Educational Need	49
3.4	Maslow's Hierarchy of Needs	52
5.1	The Structure of Conventional Agricultural Extension in Kenya	144
5.2	Proposed Structure of the Equator Project.	145
6.1	Regional Distribution of the FTCs in the Study Sample	157
6.2	Areas of Additional Training for Trainers.	166
6.3	Reasons Given for FTC Trainers for Wishing to Leave FTC Teaching	169
6.4	Small Scale Farmers' Critical Learning Needs as Perceived by FTC Trainers	178
6.5	Objectives of the FTC Program as Stated by FTC Trainers	179
6.6	Effectiveness of FTC Program as Stated by FTC Trainers	184
6.7	Categories of FTC Trainees as Stated by FTC Trainers	187
6.8	FTC Trainers Knowledge of FTC Trainees Background	188
6.9	FTC Trainers' assessment of Current Trainees' Educational Background	190
6.10	Categories of the Trainees Vis a Vis Land Ownership According to FTC Trainees Response	192
6.11	The Age of FTC Trainees as Stated by FTC Trainees	193
6.12	The Size of the Trainees' Farms as Stated by FTC Trainees	194
6.13	Trainees Academic Qualifications According to FTC Trainees	196

LIST OF APPENDICES

I.	Letter from the Office of the President Authorizing the Research	236
II.	Research Permit	238
III.	Agricultural Education Institutions in Kenya in 1976	240
IV.	Farmer Training Centre Students (Interview Schedule)	249
V.	Farmer Training Centres Questionnaire for Principals and Instructors	256
VI.	University of Nairobi, Faculty of Agri- culture, Undergraduate Programmes	264
VII.	Egerton Agricultural College, Education and Extension Department	268
VIII.	Bukura Agricultural Institute Farm Management and Extension Department	280

CHAPTER I

INTRODUCTION

Background

The level and rate of development in Africa has lagged behind other regions of the world in spite of the efforts made by African governments, in the past two decades, to accelerate the development of their countries. By 1976 the non-OPEC countries of black Africa¹ had an average Gross National Product (GNP) of \$277 per capita as compared to \$315 for Asia, \$3,678 for Europe, \$4,910 for Japan and \$7,853 for North America.² However, these figures quoted above do not give a complete picture of the gap between Africa and the rest of the world. While other regions have enjoyed all the benefits from their GNP, the little that has been produced in Africa has been shared with the more wealthy regions of Europe and North America, which have invested in Africa either directly through multinational corporations or indirectly through loans to African governments. Multinational corporation profits, government loan repayments, and interest due to creditor nations represent a substantial fraction of the benefit derived from the GNP quoted above for African countries.

Other indices of development show a similar gap between Africa and the rest of the world. The Physical

Quality of Life Index (PQLI), which is a measurement of life expectancy at age one, infant mortality and literacy rates, indicated in 1976 that Africa was 32 out of a maximum of 100. The PQLI for other regions during the same year was 57 for Asia, 90 for Europe, 96 for Japan and 95 for North America.³

Poverty and general backwardness in Africa has largely been attributed to the lack of education and training. Hence, when Kenya attained independence on December 12, 1963, the new government appointed a commission within a week, on December 19, 1963, "to survey existing educational resources of Kenya and to advise the Government of Kenya in the formulation and implementation of national policies of education." The Kenya Education Commission also known as the Ominde Commission suggested that the relationship between education and agriculture was of vital importance to the economy of the country and therefore deserved a careful study by special commission on agricultural education.⁴

Meanwhile, the Government of Kenya was hard pressed to find quick solutions to the immediate economic problems of the country. There was increasing migration of rural people into the urban centers in search of wage employment. The incidence of unemployment and migration to urban areas was highest among school drop-outs (school leavers). In

1964 the Prime Minister of Kenya, Jomo Kenyatta, made a special speech to the country appealing to unemployed urban people to go "back to the land" and learn to earn a living in rural areas.⁵ The speech pointed out that because Kenya was an agricultural country, agriculture had to be the means of livelihood for most of the population.

In 1965, the government requested the University College of Nairobi to organize a conference to examine the relationships between education, employment, and rural development.⁶ The conference was held at Kericho in 1966, and, like the Kenya Education Commission, the Kericho conference examined agricultural education along side other aspects of rural development, and recommended that a special commission be appointed to review agricultural education.

The search for strategies to intensify agricultural production in Kenya had started prior to independence. Throughout the colonial period, various experiments had been tried out in soil conservation, disease control and adoption of high yielding enterprises. The Farmer Training Centre (FTC) Program, which is the focus of this study, emerged in the 1930's as an experimental program conducted by the Community Development Department of the colonial government.⁷ In the 1950's, the Department of Agriculture developed a rival farmer training program.

In 1961, the community development farmer training program was discontinued and the Government of Kenya embarked on expansion of the Farmer Training Centre Program under the Department of Agriculture.

At the time of independence, the Ministry of Agriculture, formerly the Department of Agriculture, appeared ambivalent towards the FTC Program. In 1963, a report of the Ministry on the FTC Program expressed alarm at the number of cancelled courses that year, pointing out that many centers had been closed for as long as six months.⁸ The following year, a policy statement from the Ministry explained the structure and role of the FTC program and then said, in part, "With the possible build up of some 40 centres in Kenya some people are doubtful about the wisdom of this policy."⁹

At the time of this writing there are approximately thirty-six Farmer Training Centres in the country: thirty run by the Ministry of Agriculture, five by a church organization known as the National Christian Council of Kenya (NCCCK) and one run by a local government authority, Kipsigis County Council. They have evolved into residential centers which can accommodate thirty to one-hundred trainees, and have a teaching staff of five to seven instructors each in agriculture and home economics.

FTCs are intended to be an integral part of agricultural extension. Government FTCs come directly under District Agricultural Officers (DAO), who are heads of agricultural extension in their respective districts. Non-government FTCs have their own management organizations for the purpose of financing the program, but they work within the government extension system, coordinating their programs with the District Agricultural Officer. The FTCs offer short courses, normally lasting one week or less. The courses for small scale farmers were originally intended to focus on one skill or one farming problem at a time, but it was suggested in the 1974-78 national development plan¹⁰ that each course should integrate as many related rural development problems as possible. Apart from agricultural courses, FTCs provide facilities for other community development agencies to conduct their own courses in leadership, extension work, cooperative education, business management, family planning and other aspects of community development.¹¹

The Problem

Evaluation documents and annual reports in the early 60's, on the growth of the Framing Training Centre (FTC) Program in Kenya suggested that the development of the Program had been inhibited by the following problems:

- FTCs were not fully integrated into the conventional agricultural extension service;
- FTC educators were not sufficiently trained to perform their role effectively;
- There was frequent underenrollment and failure of FTC courses;
- The purpose of the FTC demonstration farm was not clear to the FTC trainers, and the farm frequently operated at a loss;
- There was little evaluation of the FTC Program.¹²

Despite doubts about the impact or usefulness of FTCs based on under-utilization of the space at existing centers, the Government continued to construct new FTCs. Evidentially, past studies did not discredit the overall design of the program, nor suggest that the program be terminated. All expert opinion tended to assure the Government of Kenya that if the problems listed above were rectified, the FTC Program would have a profound effect on agricultural development.¹³

The list of problem areas cited in the literature can be classified into three main categories: 1) policy issues like funding, staff structure and development, and salaries; 2) internal administrative problems relating to recruitment of trainees, accommodation for women with babies, the diet and numerous social and entertainment amenities; and 3) professional tasks like research, needs assessment, program development, teaching approaches,

practical lessons and the use of the FTC demonstration farm, the use of teaching aids, evaluation and follow-up.

Admittedly the problems in the three categories are interdependent and do affect the whole program jointly and severely. However, the whole range of problems listed above are difficult to treat in one study. It seems that policy issues and most of the administrative problems cut across the whole spectrum of the agricultural extension system, and cannot be resolved within the FTC Program, as implied in FTC annual reports between 1963 and 1976.¹⁴ This study is therefore concerned with the professional problems about which the FTC trainers can do something. More specifically the study will focus on the conception of the role and content of the FTC Program and the problems encountered in its development.

Purpose of the Study

This study examines the Farmer Training Centre (FTC) Program as a strategy of group approach to agricultural extension and explores ways in which the program could be strengthened to reach a larger number of small scale farmers. The study addresses the following questions:

1. What are the theoretical perspectives relevant to the FTC curriculum as a strategy for the

promotion of the group approach to extension for small scale farmers?

2. What is the role of education in the development of small scale farmers?
3. What have been the main trends in the development of the FTC Program in Kenya, and what alternative approaches of group extension have emerged?
4. Who are the FTC trainers and trainees, and how do the trainers perceive the program and the trainees with whom they work?
5. What is the future of the FTC Program and what are the prospects for strengthening the program?

Significance

The past two decades have seen an upsurge of interest throughout the world in the search for relevant education for development in the rural areas of the less developed countries. Considerable effort has been made to enrich the school curriculum in less developed countries with appropriate skills, knowledge and attitudes for rural development. The most innovative design of education for development proposed for formal schools during this period was Nyerere's community-based "Education for Self Reliance." Outside the formal school system, various educational activities have been mounted to enable rural

people to increase food production, incomes and gainful employment. So far, there has been no final agreement on the content and process of relevant education for rural development. The FTC Program, like other farmer training programs of its type, remains experimental and deserves further investigation and development.

Past studies of agricultural education for small scale farmers have tended to give FTCs superficial treatment, with examination limited to quantitative analyses of the number of centers involved in the program; residential space available at each center; the number of participants in courses; numbers and qualifications of the administrative and teaching staff; and the funds spent and raised by FTCs. These data are basic to the FTC Program, but do not provide a complete picture of the relevance of the program and its accessibility to the target community. By examining the FTC Program in isolation from extension, this study hopes to investigate the structure and processes of the FTC curriculum more closely.

The FTC model has gained importance with the increasing interest in nonformal education (NFE) programs for both adults and young people. Whether the group approach is used at residential centers or in non-residential part-time courses, it has been justified on the grounds of cost effectiveness. One expert can work with a large number of

learners at the same time, making maximum use of time and other limited resources. It is also easier to plan and to implement follow-up and progressively supportive educational activities. These assumptions open up an interesting area of investigation in respect to the FTC Program, but are beyond the scope of this study.

From the point of view of funding and implementing agencies, structured programs are relatively simple to plan, implement and evaluate. However, by the same token, there are greater risks in losing sight of individual needs and imposing a predetermined curriculum on a learning group. The lessons and insights gained from this study should therefore be of interest to a wide range of NFE programs including adult literacy classes, skill training for youth, residential agricultural courses for both adults and youth, and training workshops for community leaders and change agents.

For curriculum developers and researchers the study should generate more interest in the following questions: What are the differences between curriculum development for school systems, on the one hand, and for out-of-school programs on the other? What makes a curriculum relevant to the needs of rural communities and accessible to the target population? What

aspects of the curriculum models described in the study can be replicated in other non-formal education situations?

Another category of professionals likely to find this study relevant to their work are administrators and trainers of extension agents. The essential purpose of the FTC Program in Kenya was to strengthen agricultural extension by attending to needs which were not effectively fulfilled by conventional extension. Thus extension agents and their trainers should benefit from any fresh light shed by this study on the problem of training small scale farmers.

The study should be of interest to government ministries and departments and non-government organizations responsible for such areas as agriculture and rural development, health education and population studies, community development, culture, and youth development. It seems that significant innovation and change in the development of educational programs for farmers might have repercussions far beyond the realm of nonformal education. Within the school system, for example, the teaching of agricultural education and occupational skills would benefit from new ideas on how to instill change-making habits of thought in a learning group which is engaged in a specific development task.

Above all, the study is concerned with the preparation for change of two million rural households in Kenya. Investigations over the past two decades have not provided the Kenya Government with conclusive policy guidelines on this subject. Among other things this study hopes to propose changes for improvements of the FTC Programs in particular and farmer training programs in general.

Outline of the Study

This study is presented in seven chapters. Chapter I suggests that, like all the less developed countries of Africa, Kenya is searching for ways of using educational programs to accelerate its economic development. As Kenya is primarily an agricultural country, this search tends to focus on agricultural education. The chapter states the specific questions addressed in the study, and explains the importance of the study to agricultural extension in particular, and rural development in general.

Chapter II concerns the design of the study. More specifically, it describes the scope of the study, the researcher's experience in education and research in rural development and the research methods and instruments employed to collect data.

Chapter III provides a conceptual framework for the study. Curriculum theory and practice developed for

formal education is related to nonformal education. The chapter suggests that the processes of selection of curriculum ingredients determines the ultimate quality of an education program. The labels "formal" and "nonformal" do not in themselves reflect the quality of the program. The chapter highlights the importance of the concept of needs in development and nonformal educational programs.

In Chapter IV an attempt is made to relate the FTC Program to the global problem of education for rural development. As a nonformal education program, the FTC Program is in theory cheaper and more accessible than formal education, and more systematic than conventional rural extension. The chapter points out that these assumptions are important and worth investigating in respect to the FTC Program, but they are not the focus of this study. The chapter introduces the concept of group approach to extension and outlines the evolution of the concept of farmer training centers in East Africa.

Chapter V outlines the main landmarks in the development of the FTC program, from the first experimental program conducted by the Department of Community Development in the 1930's up to the present. The FTC Program has been allowed to exist on an experimental basis while investigation continued into its role and program content.

The chapter suggests that up to the time of writing, the FTC Program is still at the experimental stage.

The data collected during the field survey is presented and analysed in Chapter VI. The chapter focuses on how far the FTC instructors understood the needs of the potential trainees, the scope of the program in terms of the numbers of farmers to be trained, and the objectives of the program.

Chapter VII, in conclusion presents the highlights of the study and summarizes its main findings. It offers recommendations for further investigation and development.

FOOTNOTES

¹The non-OPEC countries of black Africa excluded South Africa, Algeria, Gabon, Lybia and Nigeria.

²McLaughlin, M. M. The United States and the World Development Agenda 1979, New York: Praeger Publishers, 1979, p. 174.

³Ibid.

⁴Kenya, Kenya Education Report, Part I, Nairobi: Government Printer, 1964, p. 2 (Ominde was the Chairman of the Commission).

⁵Jomo Kenyatta. Harambee: The Prime Minister of Kenya's Speeches 1963-1964, Nairobi: Oxford University Press, 1964, pp. 60-74.

⁶Sheffield, James R. Education Employment and Rural Development: Report of the Kericho (Kenya) Conference: 25th September to 1st October 1966, Nairobi: East Africa Publishing House.

⁷Prosser, Roy C. "The Development of Adult Education in Kenya with Special Reference to African Rural Development 1945-1970", Ph.D. Dissertation, University of Edinburgh, 1971, pp. 66-69.

⁸Kenya, Ministry of Agriculture, "Farmer Training Centres Annual Report 1963," Mimeo.

⁹Kenya, Ministry of Agriculture, "Farmer Training Centres in Kenya as of December 1964," Annual Report, Mimeo.

¹⁰Kenya, Development Plan for the Period 1974-1978, Government Printer, 1974.

¹¹Kenya, Ministry of Agriculture, "Farmer Training Centres in Kenya as of December 1964," Annual Report, Mimeo.

¹²Sheffield (Ed.) Kericho Report, pp. 359, Kenya; Ministry of Agriculture, "Farmer Training Centre" Annual Report 1963 and 1964.

¹³Ibid.

¹⁴Centres Annual Reports for 1963, 1964, 1969, 1971, and 1972 to 1976. Mimeo.

CHAPTER I I

DESIGN OF THE STUDY

Introduction

This chapter offers a brief summary of the scope of the study, a description of the researchers experience in rural development, and discussion of the methods used to collect data.

Scope of the Study

The FTC Program has taken different forms in various countries in Africa and the Third World. A number of African countries have tended to see FTCs as training centers for frontline agricultural extension workers and local community leaders. Other countries, like Kenya, have tried to strike a balance between training programs for educators and community leaders on the one hand and education for small scale farmers on the other. Even within individual countries, Kenya included, there are considerable differences in the scope and emphasis of program activities from one FTC to another.

A study which attempts to cover the FTC Program in several countries would either run the risk of being superficial or encounter too many variables to handle. This

study was consequently confined to Kenya, not only because this is the country with which the researcher is most familiar, but also because Kenya is among the countries with the most developed program of residential courses for small scale farmers in Africa. As already stated in Chapter I, at the time of the study, the country had a network of thirty-six small scale FTCs distributed fairly equitably throughout the densely populated rural areas.

Because agriculture is the backbone of Kenya's economy, the government spends considerable resources on research and documentation of agricultural development in general, and agricultural education and training in particular. As part of the search for effective strategies for rural development a number of studies of agricultural education and extension services done in Kenya in the past twenty years provided a firm foundation for further investigation. Additional information on FTCs was obtainable from national development plans and the annual reports of the Ministry of Agriculture and individual FTCs.

Within the Kenyan context, the concept of FTC was wide and needed further narrowing down to a researchable subject. The study was confined to the thirty-six small scale FTCs. A number of programs providing structured farmer training courses were excluded from the study.

The two FTCs catering to owners and managers of large scale, highly mechanized and capital intensive farms were excluded from the study for three reasons: (1) The level of investment required for a large scale farm, and the level of technology employed, are out of the reach of an average farmer in a poor country, let alone a small scale farmer. (2) The large scale FTC seems to be a Kenyan phenomenon which has little relevance to countries which do not have the kind of feudal land tenure system which Kenya inherited from the colonial context. The large scale farms were owned by expatriate farmers up to the period of "Africanization" of the economy following Kenya's independence. A few of the foreign owned farms were acquired by the government and subdivided into smaller units which were then given to landless Kenyan farmers. Some were retained by the original owners, and a third category was handed over to Kenyans without subdivision. The large scale FTCs were established to service the "inexperienced" Kenyan farmers who were taking up large scale farms for the first time. (3) There are only two large scale FTCs in the country. There was very little written about large scale FTCs, and they did not appear to have much impact on the development of agricultural education in Kenya during this study.

All the educational programs taking place at small scale FTCs do not fall within the scope of this study. The courses offered fall under three main categories: (1) in-service training and leadership training for frontline extension agents and community leaders, (2) non-farmer courses in such areas as nutrition, cooperative development, business management, youth development and family planning; and (3) courses for small scale farmers. Programs in the first category were excluded from the study because they were primarily concerned with training educators and community leaders for conventional extension services and did not handle farmers directly. In any case the frontline extension workers or Junior Agricultural Assistants (JAA), who were formally trained at the FTC seemed to be a disappearing class of paraprofessionals that deserved little attention from researchers and planners. The government policies were to upgrade serving JAAs through in-service training programs, while at the same time providing for a higher output of more professionally qualified Technical Assistants (TA) to man positions at the frontline of the agricultural extension service.¹ Clearly, the training of JAAs, whether done at the FTC or not, was not within the scope of a study of residential courses for small scale farmers.

In Kenya, it has been argued eloquently that agricultural education should be integrated with educational programs in health, cooperative development, home economics, family planning and other courses which might have a bearing on rural life.² Advocates of the integrated model have suggested that Kenyan FTCs should be converted to multi-purpose training centers to be known as District Development Centers (DDC). For the purpose of defining a sample for this study, however, the DDC was not seen as a conventional FTC, and for that reason DDC students and instructors, as well as FTC trainees in category two above, were not interviewed. Similarly, participants in the Equator Community Education Project (ECEP) or any other farmer training programs conducted outside the conventional FTC Program were not included in the sample.

The Researcher's Experience in Rural Development

The researcher has been involved in farmer training programs for about ten years as a consultant on adult education and as a researcher in learning needs and methods for out of school rural communities. As consultant, the researcher participated in: the FTC Principals Seminar, organized jointly by the Board of Adult Education, the Friedrich Ebert Foundation of West Germany and the Ministry of Agriculture and held at the Oceanic Hotel at

Mombasa in 1973;³ the curriculum development workshop for Bukura Institute of Agriculture organized jointly by the FAO Program for Better Family Living (PBFL) and the Ministry of Agriculture and held at the Insitute of Adult Studies in 1974;⁴ and two seminars for Egerton Agricultural College on adult education and extension sponsored by the PBFL in 1975.⁵ As a researcher, the writer was involved in the UNESCO International Institute for Education Planning (IIEP) study on "Learning Needs for Rural Areas" in 1976-1977 and the Science Education Program for Africa (SEPA) study on skill training for "Out of School Youth" (OOSY) from 1977 to 1981.⁶ The OOSY study in Kenya focused on rural youth. From 1975 to 1979, the researcher made an exploratory study of seven small scale FTCs in Kenya. The study involved a discussion with FTC principals on the objectives of the FTC Program, reading FTC documents on program planning and student recruitment and observation of FTC courses in progress. In 1977, while studying the FTC Program, the researcher designed an alternative model for educating rural communities, known as Equator Community Education Project (ECEP).⁷ The project was implemented as of 1980, and was in progress during this study.

Methods of Data Collection

Previous studies on learning needs for rural people

and curriculum development for farmers courses enabled the researcher to classify the problems associated with the FTC Program and to define the curriculum issues which are the focus of this study. The researcher also gained some insights into these issues which were used to develop research instruments and strategies for the study. The study was based on four methods of collecting data: library search, face-to-face interviews, mail questionnaires and personal observation.

The library search was used to obtain an overview of the entire program and how it developed. The FTC Program has not been studied extensively. This study, therefore, relied on primary sources consisting of annual reports, inspection reports, development proposals and plans, official correspondence about the program and FTC records. Secondary sources were few but very important as indicators of the attempts made in the past to synthesize and to articulate the purposes, content and process of the program. Most of the literature required was conveniently available in Nairobi at the libraries of the Ministry of Agriculture, the University of Nairobi and at the National Archives.

The purpose of an educational program is to fulfill the education needs of the learner. However, available evidence suggests that past studies of the FTC Program in Kenya did not give much attention to the views, feelings

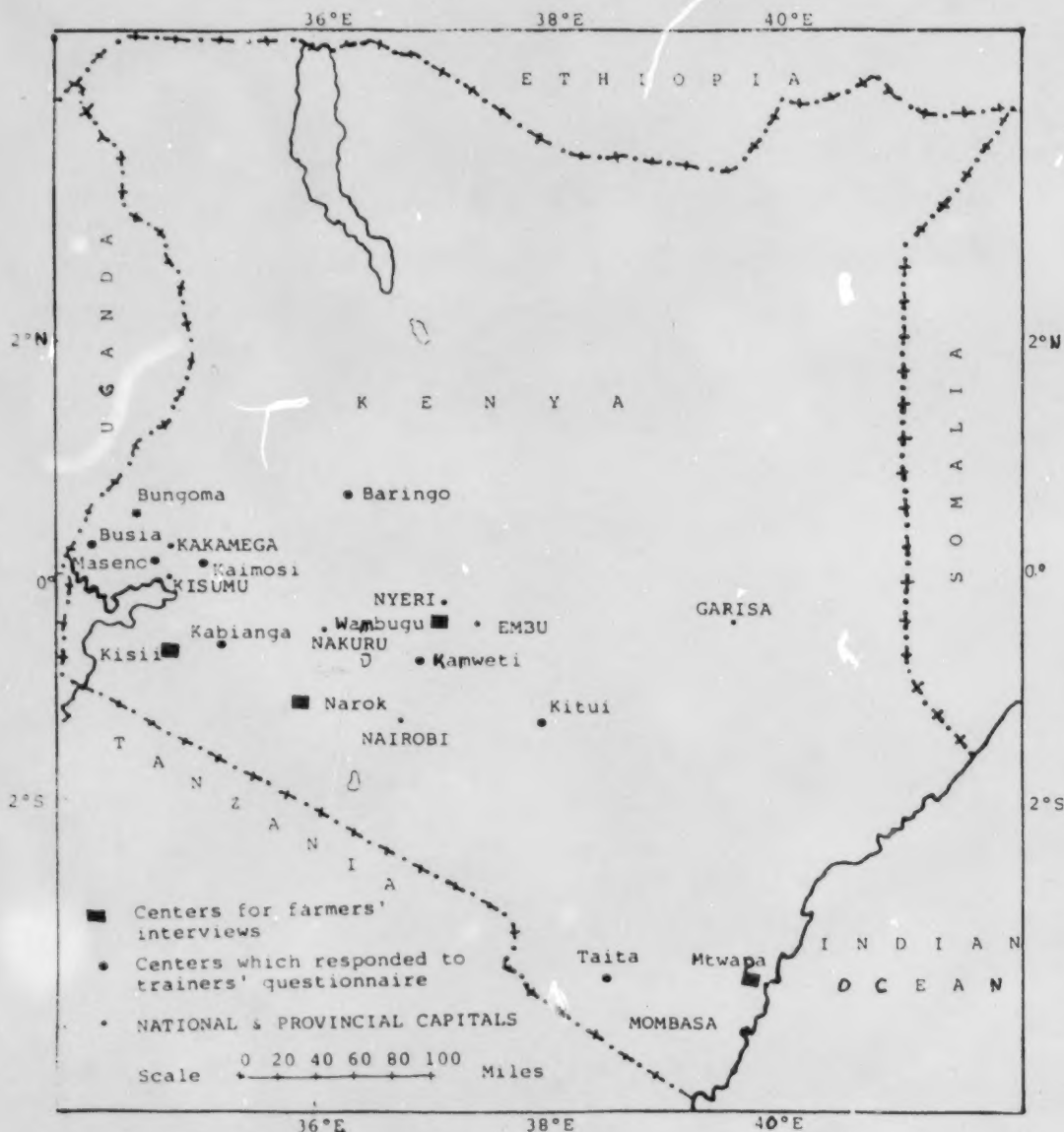
and opinions of the small scale farmers who were the potential clients of the FTC Program. A follow-up study by Vuyiya in 1963 seems to be the only attempt made in the past two decades to collect data from the clients of the FTC Program.⁸ Like Vuyiya's survey, this study provided an opportunity for small scale farmers themselves to express their own feelings about the FTC Program through structured interviews.

About 20% of the FTC trainees are illiterate and cannot respond to a mail questionnaire in English. Any attempts to translate the questionnaire into forty major languages and an even larger number of local dialects would have been futile and even counter-productive. Some of the languages do not have well developed scripts, and some of the technical terms in the questionnaire do not have equivalent terms in all the local languages. The only way to collect information from trainees was to use an interview schedule administered by research assistants who had a good knowledge of the trainees' language and home environment and could accurately interpret the questions into the local language and, where necessary, explain to the respondents what information was required.

The decision to use structured interviews in this way indirectly put limits to the number of FTCs to be studied. Each of the research assistants had to be

briefed individually and supervised closely during the translation and administration of the research instrument. The researcher decided to use a sample of ten percent (10%) of the FTCs in operation during the study, or one FTC from each of the farming regions in the country. Accordingly the country was divided into four main regions for the purpose of collecting data from small scale farmers, namely (1) the Coastal region, with Mtwapa FTC as the interview center, (2) the Central Kenya highlands, with Wambugu FTC as the interview center, (3) the Pastoral areas, represented by Narok FTC, and (4) the Lake region of Western Kenya, with Kisii FTC as the interview center. The four regions and FTCs represent different physical conditions, cultural characteristics and farming practices. The coastal region has a hot and humid tropical climate and a predominately subsistence economy. The central Kenya highlands region represents a cool mountain type sub-tropical climate with a wide range of farming practices varying from primitive subsistence economy to fairly sophisticated commercialized agricultural production. The pastoral areas are too dry for crops which need plenty of rainfall; the principal economy in these areas is livestock farming. Finally, like the Wambugu FTC, the Kisii FTC caters to an agriculturally high potential area with a wide spectrum of farming practices.

Fig. 2.1. Distribution of the FTCs Included in the Study.



The distribution of the FTCs and Provincial Capitals corresponds to the population density of the country.

BEST COPY AVAILABLE

The study excluded areas of the country classified as desert or semi-desert. The main obstacles to farming in these dry lands seems to be water, and not education and training.

At the time of research, the FTC Program had a workforce of about 250 administrators and instructors. Due to the attendant problems of understaffing and frequent transfers out of the program, the actual workforce within the system at any given time did not go above the 200 mark. The numbers to be handled in this study were thus low, and it did not appear necessary to limit data collection to a small sample. All trainers were fully literate, with a minimum of twelve years of formal education, and considerable proficiency in the English language. It was therefore decided that a mail questionnaire would be sent to all FTC trainers.

There were at least two advantages to administering the mail questionnaire to all trainers. The main objective of the study was to collect as much information as possible on FTC educators' opinions about the FTC Program. Administration of the mail questionnaire to all FTC educators maximized the number of responses received back. If the questionnaire had been sent to a smaller sample, the number of the responses returned would have been fewer and

less representative of the range of divergent opinions among FTC educators.

The researcher's observation of the FTC Program began about ten years earlier and prepared the ground for this study. At the beginning of the study the researcher visited the four FTCs selected for the interview of farmers. The final decisions on how to determine the sample and to contact respondents were made after consultation with FTC staff. During the interview stage the researcher made more visits to the interview centers, as a result of which modifications were made to data collecting procedures. The greatest value of the researcher's visits to interview centers was the deeper insight he got into the program, which was subsequently used in interpretation of the data.

The researcher mailed questionnaires to FTC principals with a cover note explaining the purpose of the study, and promising that individual opinions expressed in the questionnaire would be handled with strict confidentiality. The cover note assured respondents that all requirements for conducting a survey in the country had been fulfilled, and that the study had received approval from the Training Division of the Ministry of Agriculture, the National Council for Science and Technology, which scrutinizes all research proposals on behalf of the

government, and the Office of the President. A photostat copy of the research permit from the Office of the President was enclosed as proof that the survey had been sanctioned by the Government.

A stamped envelope was sent out with the research instrument for mailing completed questionnaires back. One month after the dispatch of the research instrument, a written reminder was mailed out to all FTCs which had not responded. After the second month another reminder was mailed out. Meanwhile, telephone follow-up was used to enquire from FTCs whether the instruments had been received and acted upon.

The researcher hired four research assistants to conduct the oral interviews at the selected FTCs. The research assistants had to be proficient in English and to have a good knowledge of the districts in which they would be working. Each research assistant discussed the instrument with the researcher and thereafter translated the instrument into the major language of the district and tried it out on five respondents. After the trial period, the researcher once more discussed the instrument with the research assistant, and then the latter embarked on the actual data collection.

Each research assistant was instructed to confine the interview to trainees attending farmers courses at the

selected FTC in October and November, 1981. During the field work, the researcher visited each research center three times to participate in the interview process and to talk to respondents.

Summary

This chapter describes the focus of the study and the methods used to collect data. The study focused on the thirty-six small scale FTCs operating in the country during the research. Thirty of the FTCs were managed by the Government, five by a church organization, the National Christian Council of Kenya, and one by a local government authority, Kipsigis County Council.

Four methods of research were employed in the study, namely the library search, a mail questionnaire, a structured interview and personal observation by the researcher. The structured interview was conducted by four research assistants stationed at four FTCs situated in the four major farming regions of the country. Personal observation was based on the long association which the researcher has had with the FTC Program.

Chapter III presents some of the information derived from the library search. The chapter looks at the theoretical perspectives of the FTC curriculum.

FOOTNOTES

¹Leonard, David K. Reaching the Peasant Farmer: Organization Theory and Practice in Kenya, Chicago: The University of Chicago Press, 1977, pp. 9-16.

²Kenya, Development Plan 1974-78, p. 485.

³Kenya, Ministry of Agriculture, "Farmer Training Centres 1972-76." Mimeo.

⁴Wallace, I. R. "The Bukura Curriculum Development Study," 1974. Mimeo.

⁵The seminars for Egerton College on Adult Education and Extension were sponsored by the Programme for Better Family Living of the Food and Agriculture Organization (FAO).

⁶Oluoch, Gilbert P.; Mulusa, Thomas; Waka, Alice O.; Mugiri, Ephantus M. and Baderia, G. S. "Learning Needs in Rural Areas: A Case Study of Vihiga and Hamisi Special Rural Development Programme," UNESCO: IIEP, 1977, and Mulusa, Thomas and Waka, Alice O. "Training the Youth for Employment," paper presented at the Science Education Programme for Africa Seminar held at Monrovia, Liberia, 1978. Mimeo.

⁷Mulusa, Thomas and Waka, Alice O. "Equator Community Education Project: Planning With the People, Workplan for Year One, March 1981--February 1982." Mimeo.

⁸Vuyiya, Peter A. "A Report on the Evaluation of Farmers Training and Farmers Training Centres." Kenya, Ministry of Agriculture and Animal Husbandry, 1963.

CHAPTER III

THE THEORETICAL FRAMEWORK

Introduction

The FTC Annual Reports for 1963 and 1972 to 1976 tended to attribute some of the weaknesses of the FTC Program to the curriculum.¹ This chapter is devoted to a description of the curriculum so as to provide a framework for (1) making judgments on the qualities of the FTC curriculum; (2) drawing meaningful boundaries between exclusively curriculum issues, and problems that extend beyond the confines of curriculum theory and practice. Three perspectives of curriculum decision-making are addressed, with particular reference to nonformal education in general and farmer training in particular. The perspectives are:

1. the dichotomy between formal and nonformal education;
2. the definition and conception of a curriculum; and
3. major educational philosophies and learning theory which seem to influence curriculum decision-making in nonformal education.

The chapter does not deal with the less problematic area of curriculum implementation.

The Dichotomy Between Formal
and Nonformal Education

FTC courses fall into the category of out-of-school programs known as nonformal education. Coombs and Ahmed defined nonformal education as "any organized systematic, educational activities carried on outside the framework of the formal system to provide selected types of learning to particular subgroups in the population."² Formal education is defined as "the highly institutionalized, chronologically graded and hierarchically structured education system spanning lower primary school and the upper reaches of the university."³

Adult and nonformal education enterprises are usually defined in terms of how they differ from formal school programs. Some adult educators are uncomfortable with the use of the label "curriculum" to describe educational designs for adult educational settings. They suggest that the term "program" more appropriately defines the flexible and learner-centered enterprises associated with the adult and nonformal education domain. The label "curriculum," according to this school of thought, is confined to the rigid and content-centered designs which tend to be associated with the formal school sector. In examining the relation between formal and nonformal education this section specifically tries to determine how far

curriculum theory developed for the former can be used to review the latter.

An important landmark in the development of the dichotomy between formal and nonformal education was the publication in 1968 of Knowles' book The Modern Practice of Adult Education, which drew a sharp distinction between two concepts: andragogy and pedagogy. According to Knowles, andragogy is "the art and science of helping adults to learn." In contrast, the teaching and learning that goes on within school settings is defined as pedagogy, i.e., "the art and science of teaching children."⁴ Knowles' main effort was to establish this distinction between child education and adult education. Although "andragogy" has not been widely adopted by authors and nonformal educators, the dichotomy implied by Knowles' terms has become the starting point for much of the adult and nonformal education literature in the past decade.

Knowles' dichotomy was based on four assumptions about both adult and young learners:

1. Adults are independent and self directing. They resist attempts to humiliate them or to treat them like children. In contrast, children tend to be receptive to decisions made by the adult world.

2. Adults have accumulated substantial life experience which affects the learning transaction. Younger learners have relatively shorter experiences and are more likely to accept suggestions which contradict their experience.
3. Like children, adults have their own developmental stages which produce readiness to learn. While readiness to learn among children is roughly geared to the biological age, the readiness to learn among adults is influenced by a wider range of factors from past experience, present roles and a complicated milieu of social and physical environments surrounding the learner.
4. While children see education as a long-term accumulation of knowledge, leading to some period of application in the distant future, adults are problem-centered, and are motivated to learn what appears meaningful and relevant to immediate life tasks.⁵

Writing eight years later, Simkins provided a more elaborate typology on the relationship between formal and nonformal education which he contrasted in terms of educational purposes, timing, content, delivery systems and

control.⁶ Simkins' typology is illustrated in Fig. 3.1 on page 36.

Attempts to delineate nonformal education and to create a sense of professional identity for nonformal educators have tended to overlook the wide areas of firm common ground between the formal and nonformal domains. Making a case for a more positive relationship between formal and nonformal education, Fordham asserted that "to retain their dynamism and to relate effectively to the formal system, nonformal educators need to build upon their virtues in five areas: target groups, purposes, organization, methods and relationship with the formal system."⁷ Fordham's exposition highlights recent efforts to emphasize the value of nonformal approaches in the formal system, but does not rigorously review the common bedrock of curriculum theory and practice which underlies both the formal and the nonformal domains. As a lead to analysis of this common ground an attempt will be made first to define the concept of "curriculum."

Conception of Curriculum

The process of curriculum decision-making and development is as old as organized educational activities. But curriculum theory, as an area of study, is relatively new and characterized by conflicting views. The following

Fig. 3.1. Ideal Type Models of Formal and Non-formal Education.

FORMAL EDUCATION		NONFORMAL EDUCATION	
<u>PURPOSES</u>			
Long-term and general Credential-based		Short-term and specific Non-credential based	
<u>TIMING</u>			
Long Cycle Preparatory Full-time		Short Cycle Recurrent Part-time	
<u>CONTENT</u>			
Standardized Output centered and individualized		Input centered and individualized	
Academic		Practical	
Clientele determined by Entry Requirements		Entry Requirements Determined by Clientele	
<u>DELIVERY SYSTEM</u>			
Institution based Isolated (from social economic environment and from social action) Rigidly structured Teacher centered Resource intensive		Environment-based Community-related Flexibly structured Learner centered Resource saving	
<u>CONTROL</u>			
Externally controlled Hierarchical		Self governing Democratic	

Source: Tim Simkins, Nonformal Education and Development. Some Critical Issues, (Manchester: Bourne Month Ltd., Butts, 1977), pp. 12-15.

sections provide an overview of current definitions of "curriculum" so as to identify a definition which incorporates adult and nonformal education enterprises.

One way of evaluating curriculum definitions is to place them on a continuum ranging from the specific and narrowly conceived at one extreme, to general and broadly conceived at the other. One example should suffice to illustrate the former. Beauchamp defined a curriculum as "the product of curriculum planning. It is a written document intended to be used by teachers for developing their teaching strategies for specific groups of students."⁸ At the opposite end of the continuum, Sinclair and Ghory defined a curriculum as "the environmental ingredients that have been deliberately shaped to create a context for learning,"⁹ and in the same vein, Morley said a "curriculum is the never-ending invention of learning environments."¹⁰

Without placing value on the definitions quoted above, the point to be made here is that the sharp distinction often drawn between the school curriculum and adult and nonformal education programs is based on conceptually ideal models which rarely exist in life. It is true, for example, that children tend to be a captive audience, and up to a point, can be subjected to irrelevant learning activities under unsuitable learning climates. But to obtain optimum learning effect, child education,

like nonformal education, must be based on the needs of the learner, and conducted under environments which promote learning. Consequently this study agrees with Kidd that "some of the principles of curriculum study and development used in elementary and secondary schools as well as the university level can be applied to adult and nonformal education enterprises, particularly those discussed in a syllabus by Ralph W. Tyler, titled Basic Principles of Curriculum and Instruction."¹¹

In this study, a curriculum is conceptualized as a package of educational content and environmental opportunities intended to provide a framework for an educational enterprise geared to specific outcomes. A statement of the curriculum may occur as a blueprint, specifying all the ingredients of the planned educational enterprise, or it may simply outline the main objectives and guidelines of the program, leaving room for the educator to fill in the details. Differences in the wording of the curriculum statement will often occur, depending on what different educators consider relevant and/or significant learning content and opportunities.

Cautioning that the whole school environment does not constitute a curriculum, Sinclair and Ghory identify three curriculum dimensions which have significant implications for nonformal education in general and for farmer

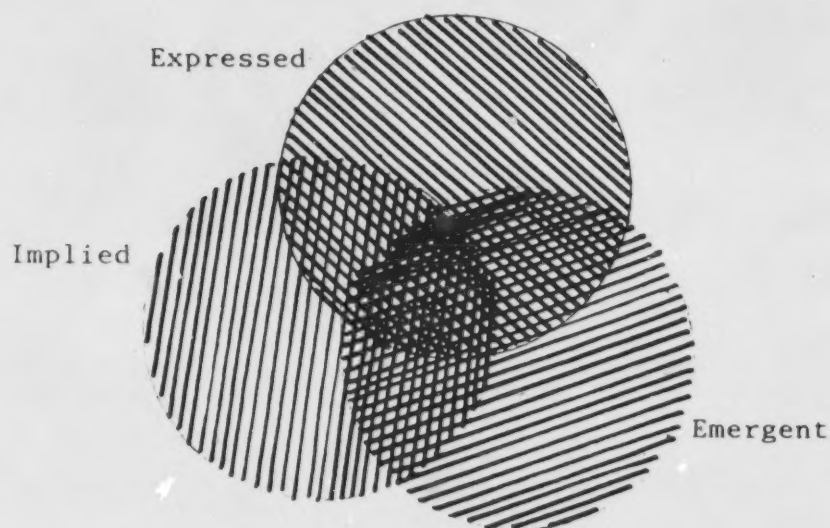
training in particular: the expressed, the implied and the emergent perspectives.¹² The expressed dimension is the official statement of the program consisting among other things of the curriculum objectives, content sequence, learning opportunities and evaluation procedures. This dimension normally has no "hidden" elements of the curriculum, as do the implied and emergent perspectives. In the nonformal education domain there is currently a raging debate on how far the learner is, or should be, involved in determining the ingredients of the expressed curriculum.

The implied dimension includes messages derived from the rules, regulations, norms and all the physical and social constraints within the learning environment. Unlike the school programs, which are normally confined to a campus with specific rules and regulations, nonformal education programs take place in a learning environment which does not have clear physical and social boundaries: "the world is the classroom." Thus, both the educators and the learners are subjected to a wider range of influences than the school system.

The emergent dimension consists of the ongoing alterations of and adjustments to the expressed curriculum. In a program that is offered repeatedly, new content is from time to time added to the package while what is considered outdated or undesirable is at the same time

eliminated gradually through a process of program renewal. The NFE Program tends to be more dynamic than the school program. The latter often has a fixed core curriculum lasting for a long period of time, while the former is constantly changing in response to the needs of the target learning groups.

Fig. 3.2. Curriculum Dimensions.



Curriculum definitions labeled above as "narrow and specific" normally tend to refer to only one curriculum dimension, i.e., the "expressed," while the definitions described as "broad and general" state, or infer, both the "implied" and "emergent" perspectives as well as the "expressed" dimension.

The Influence of Educational
Philosophies on Curriculum Design

The purpose of a curriculum is to determine what should and what should not be included in an educational enterprise. Curriculum developers are therefore guided by laws, rules, regulations, public opinions and societal values which are in turn derived from some basic assumptions about human nature, knowledge, the learning process, the purposes of education and societal goals. This section briefly describes educational theories or philosophies which seem to influence curriculum design and practice.

Brubacher identifies twelve different educational philosophies linked to the dominant social theories:¹³

1. Pragmatism
2. Reconstructionism
3. Romantic Naturalism
4. Existentialism
5. Organism
6. Idealism
7. Realism
8. Rational Humanism
9. Scholastic Realism
10. Fascism
11. Communism
12. Democracy

Buford highlights four schools of thought, i.e., Perennialism, Progressivism, Reconstructionism, and Essentialism.¹⁴ The classification of different schools of thought tends to obscure the areas of overlap and agreement between different philosophies; the names or number of different schools of thought are mere labels to mark different points within the same field.

Wingo's¹⁵ list of five philosophies of education are reviewed below in a slightly modified form in order to stress the importance of educational philosophy in curriculum decision-making.

Essentialism. The goal of essentialism is the preservation of tradition and the gradual evolution of the existing social system guided by the wise and those talented to lead. Change must not disrupt the cultural heritage and accumulated wisdom of past generations. Education, to essentialists, is seen as a vehicle for transmitting elements of past and present tradition to future generations. A curriculum in the essentialist context consists of a common core of the traditional disciplines, intellectual skills and societal values that must be transmitted to reinforce continuity and gradual progress, as opposed to revolutionary change. Essentialist conservatism and aversion to change are in conflict with the purposes and principles of

nonformal education. However, some nonformal educators, notably those in skill teaching, believe in a fixed core curriculum for their educational programs.¹⁶

Pragmatism. Pragmatism is concerned with what works and what promises to produce results. Theories must be tested and proved through practical experience or experimentation before they are adopted. Pragmatism is flexible enough to accommodate both conservative and liberal ideas, provided they work. Opponents of pragmatism charge, with some justification, that pragmatism is more of a methodology, a way of doing things, than a philosophy. Nonformal educators are split between the pragmatists, who are prepared to experiment with new ideas and educational designs and to function within existing social structures, and the non-pragmatists, who are firmly rooted in specific ideological orientations such as the Freirian education for critical consciousness.

Perennialism. Perennialists believe that the basic truth is fixed and universal. The purpose of education is to provide opportunities for development of human potential intellectual powers and thus to unveil the basic truth in knowledge. According to this school of thought, a good education is expected to discipline the mind. Perennialists propose that an educational program should

be constructed around a core curriculum of liberal arts and mathematics which discipline the mind. By the same token, perennialists believe that training for work is not the primary goal of education. Skill training in their view does not shape man, that is equip him with knowledge, a sense of judgment and a code of moral virtues.

Evidently, perennialist aversion to work-oriented education is in sharp conflict with the goals of nonformal education. However, the concept of the core curriculum is widely held by nonformal educators involved in skill training. As will be shown in the next two chapters, the farmer training program in Kenya has from time to time been questioned by two schools of thought: those who believe that FTCs should provide a broad education for rural development, and those who advocate a strong "core curriculum" of agricultural education.

Socialism. Socialist philosophies emerged as a protest against conservatism and liberalism in western countries during the 19th century. The most prominent school of socialist thought was Marxist dialectic materialism. Marxist theory was derived from Hegel's dialectic idealism. Simply put, Hegel's theory proposed that historical development was characterized by a conflict of ideas. Every positive idea, thesis, was contradicted by an opposing

idea, antithesis. Out of the conflict of the thesis and antithesis, a new idea, synthesis, emerges. The process is repeated when the synthesis becomes a new thesis which is negated by a new antithesis to give a new synthesis. Karl Marx replaced ideas in Hegel's dialectic with social classes. While Hegel's dialectic idealism continued indefinitely, Marxist didactic materialism was destined to come to an end when the poor working class would eliminate the privileged classes and establish a classless society.

Marxists rightly assume that the political economy of a region determines the content and process of education. In the Marxist classless society, educational opportunities would be equally open to all the people.

Marxism has profoundly influenced education in two ways:

1. Literacy campaigns and radical social reforms, using innovative and/or nonformal education as a tool for change, have found a fertile ground with socialist systems such as China, Cuba and Tanzania.
2. The most powerful method of literacy teaching and consciousness raising, devised by Paulo Freire, is based on Marxist theory of class conflict.

Existentialism. The philosophies outlined above have focused on ideas. In protest, existentialism proposes that the focus of philosophy should be the existence and freedom of man and the purpose of education to prepare man for freedom. A curriculum consisting of humanistic studies, such as literature, music and art, is thought to contain the right elements for this purpose, while science is too cold and aloof to deal with human nature. Existentialism is based on the assumption that there are universal and absolute principles of ethics, and that ideas are innate to man. Thus, learning is primarily a process of recollection and can best be achieved by the use of the Socratic method of guiding the learner through questioning and refining of tentative answers. The stress on the importance of personal and interactive relationships between learners and educators by existentialists is widely used in human relations training and nonformal education.

Learning Theory

Educational philosophies help the curriculum developer to determine the purposes of educational programs by answering the question "why." Learning theory considers the equally important question "how." In non-formal education, the behaviorist and humanistic theories to how learning takes place seem to be predominant.

Among the founding fathers of behaviorist theory are Pavlov, Watson, Guthrie, Thorndike and Skinner.¹⁷ All five made contributions to behaviorist theory by systematic observation of the responses of animals and human beings to outside stimuli. Of these, Skinner seems best to sum up the basic principles of behaviorism.¹⁸

Skinner claimed that the study of human behaviors had remained static for the past twenty-five hundred years. While physicists and biologists had gone many strides beyond what was known to Aristotle, Plato and other early philosophers, social scientists still looked back to these ancient scholars for guidance. To build a powerful and precise technology for influencing human behavior, there was need to make a complete break with tradition. Social science should abandon the traditional assumption that man's behavior could only be explained in terms of a mind which was beyond human comprehension.

Basing his explanation on Pavlov, Watson and Guthrie, Skinner identified two kinds of behavior: "respondent" behavior, or reaction to the environment, and "operant behavior" or action upon the environment. Most people are most of the time involved in operant behavior. Learning, he suggested, occurs by a process of reinforcement, increasing the probability of response.

The reinforcement can be positive or negative. For the desired response to occur, the positive reinforcement must be increased, and the negative reinforcement minimized. Punishment, for example, is not a negative reinforcement in all circumstances, as some punishing situations may lead to positive reinforcement and effective learning.

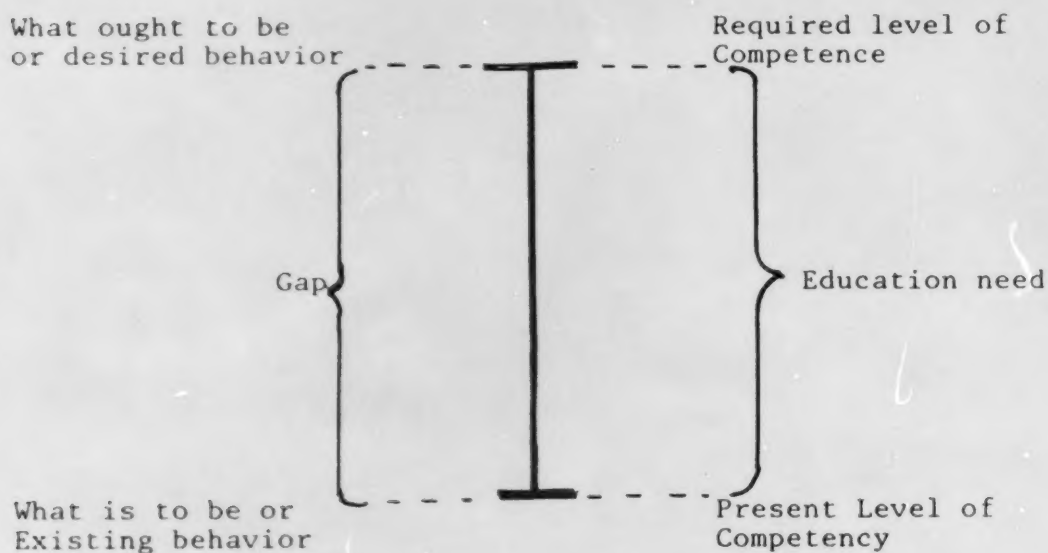
The concept of reinforcement is Skinner's main contribution to the psychology of learning and has been used extensively in programmed learning and other forms of self instruction. The behaviorist theory as a whole has had a profound impact on nonformal education and human relations training in industry. Both nonformal education and human relations training programs invariably state their objectives in behavioral terms, or the behavior learners should exhibit at the end of a learning activity. The programs are usually short-term and can easily be evaluated in terms of the learning activity used and the response received from learners which correspond to stimulus and reinforcement on the one side and response on the other.

Learning Needs

According to curriculum design literature, the purpose of education is to change the behavior of the learner by imparting new ideas, or modifying existing behavior.

Desired behavior is known as a "learning need." Tyler defined a learning need as "the gap between some conception of a desirable norm--that is, some standard of philosophic values--and the actual status."¹⁹ Knowles stated that an educational need is "the discrepancy between what an individual [or organization or society] wants himself to be and what he is; the distance between an aspiration and a reality."²⁰ The distance is illustrated in the Fig. 3.3 shown below.

Fig. 3.3. Definition of Educational Need.



(Reproduced with modifications from Knowles, The Modern Practice of Adult Education, (New York: Associated Press), 1970, p. 86.)

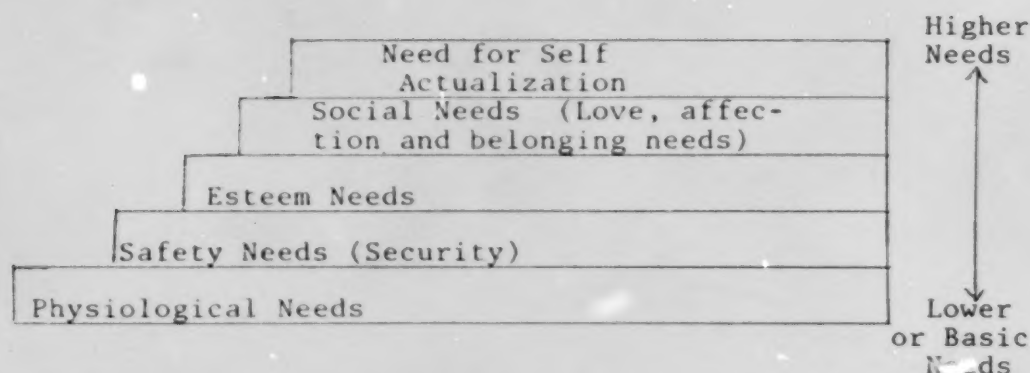
Learning needs are part of a wider spectrum of human needs. Dave and Evans devised a three-stage typology for determination of learning needs which can be used in classifying the whole spectrum of human needs.²¹ The highest level, according to these authors, consists of societal or universal needs expressed in terms of the national or international goals and aspirations. Below the universal level, there are needs that apply to specific regions or communities (regional needs). The regions could be groups of countries, political units within a country, or geographical zones. The bottom level (local level needs) represents learning needs that apply to local neighborhood communities, villages and small groups such as schools, cooperatives, and youth groups.

Wolf used a similar stratification to define educational objectives.²² According to Wolf, the horizontal stratification indicates levels of specificity. At the universal level, objectives are expressed in broad societal goals such as increased agricultural production. A middle level statement of the same objectives would specify what specific agricultural activities would be undertaken, while the local level objectives would be expressed in terms of specific organizational outcomes and the competencies which the farmers would require to achieve the respective goal.

Maslow's hierarchy of needs provides another framework for analysis of learning needs.²³ According to Maslow, human needs seem to occur in a hierarchy ranging from the basic needs for survival at the lower levels to the personal development needs of esteem and achievement at higher levels. Theoretically, an individual aspires to a higher order of needs after the lower order needs have been gratified. Once an individual has gratified a level of needs, he acquires the competence to deal with that particular need, should it reappear. In real life, one level of needs is not completely satisfied before the individual moves to the next level of needs. After one level has been partially satisfied, other levels may become equally dominant. In other cases, higher order needs may become dominant in the life of a person whose basic needs have not been completely satisfied. Maslow's hierarchy provides a useful theoretical profile from which specific dominant needs can be inferred, but not a rigid classification of needs.

As shown in Fig. 3.4, the basic needs for survival which human beings seem to share with other animals are described by Maslow as lower needs. The needs which seem to be associated with human beings only, for example, the need for personal development, are referred to by Maslow as higher needs. One implication that could be

Fig. 3.4. Maslow's Hierarchy of Needs.



Source: Maslow, A. H., *Motivation and Personality*, (Harper and Row Publishers, New York, 1970), pp. 41-104.

drawn would be that a poor man would place a higher value on lower needs while a wealthy man whose lower needs have been met in full would place a higher value on the higher needs.

Learning needs are linked to other human needs. A community may fail to produce sufficient food and other basic needs due to a discrepancy between the level of its present knowledge, skills, and attitudes, and that required to harness the resources available in the immediate environment. But all human needs cannot be satisfied by educational programs alone. Defining the role of education in rural development Coombs and Ahmed pointed out that rural development is the result of many interacting forces. Education is only one of the forces.²⁴

Knowles made a significant distinction between learning needs and "educational interests." Learning needs have been defined above as a gap or discrepancy between existing behavior and desired behavior. Educational interests, as defined by Knowles, are "the expressed preference among possible activities perceived as potentially satisfying educational needs." In this study, learning needs are assumed to be what an individual ought to learn in order to achieve the desired competency, while educational interests are what a learner thinks might satisfy his desires.

The FTC Program is based on the assumption that potential FTC trainees have learning needs which may be described as farming deficiencies or lack of farming competencies. The learning needs addressed by the FTC require systematic learning extended over several days, and cannot therefore be fulfilled through the cursory farm visits made by frontline extension workers. Pursuing this line of reasoning, Jon Moris said that the primary school and the Farmer Training Centre were "most effective when they achieved a cumulative 'professionalization' of peasant farming in all its aspects." Other studies, notably the Agricultural Educational Commission, and the International Labour Office Mission of 1969 saw greater potential in the FTC Program as a tool for

fulfilling the needs of the whole farming community, not limited to the quasi professional agriculturalists referred to in this study as the progressive farmers.

Self Directed Learning

An additional concept which is relevant to the current discussion is self directed learning. Referring to this concept, Rogers said:

In a world which is already upon us, the aim of education must be to develop individuals who are open to change. Only such persons can constructively meet the complexities of a world in which problems spawn much faster than their answers.²⁵

Rogers perceived the learning processes as falling on a "continuum of meaning."²⁶ At one end of the continuum, learning takes the form of mechanical memorization of data. Such learning does not have to make sense to the learner, and is not necessarily related to the environment and experience of the learner. At the opposite extreme, learning is made significant, meaningful and experiential. Rogers pointed out that in practice, educational programs, especially in the formal school system, tend to be locked up into prescribed curricula which are characterized by similar assignments, formal lectures, standardized tests and grades determined by the instructor. He suggested that there is need to shift to educational approaches

which emphasize more practical ways, new goals and new values. The objective of this alternative should be to encourage self-reliant learning, self-chosen curricula, and self-designed assignments. The use of lectures in the proposed system would be limited, and the function of testing and grading would be done by the learners.

The most effective method of facilitation in the new approach would be through intensive group experience organized in a variety of ways and known by different names such as T groups, laboratory training, sensitivity training, basic encounter groups and workshops.²⁷ The group format is unstructured and provides a climate of maximum freedom for personal experience, indepth exploration of the feelings of participants and interpersonal communication. According to Rogers, the group approach has been used successfully with industrial executives, government administrators and professional groups. The method has not been widely used in the formal school classroom. Thus, self-directed learning, as defined above, has so far remained primarily a nonformal education approach.

Implementation of self-directed learning does not require formal school teachers, but rather individuals (facilitators) who are prepared to help the students to become self-reliant learners. Such facilitators must have a positive view of the learners.

On the question of attitude to learners, McGregor presents two mutually contradictory views of people in his Theory X and Theory Y.²⁸ Theory X describes leaders who assume that people lack initiative and motivation and prefer to be directed and controlled. The leadership styles adopted under Theory X encourages dependency, irresponsibility and immature behavior. Theory Y describes leaders who assume that human beings are intelligent, motivated, willing to shoulder responsibility and ready to participate in the affairs of their organizations. Theory Y styles of leadership promote self-reliance. McGregor's theory was developed for industrial settings but has, in the past decade, become a powerful instrument for training in non-formal education settings.

Protests against the school system by modern educationists, including Ivan Illich, Everett Reimer and Adam Curle,²⁹ assert that the school system is not equipped to deal with problems of increasing poverty, unemployment, hunger, environmental pollution, destruction of irreplaceable resources, and growing inequalities between different political regions, social classes and individuals. All these critics agree that the school system must be made less formal and more responsive to the needs of the poor and disadvantaged sections of society. In the area of

nonformal education, the most influential critic has been Paulo Freire.

Freire's educational model is based on the assumption that traditional societies in western countries and third world countries tend to be divided into two antagonistic classes: the illiterate, poor and weak on the one hand, and the schooled, rich and powerful on the other.³⁰ The conflict between these two classes continues to build up to a head as the latter becomes more oppressive. Traditional education, supported with existing laws, rules, regulations and values, is designed to reinforce the existing oppressive conditions. The purpose of Freire's model is to remove oppressive conditions and in the process liberate both the oppressed and the oppressors.

Unlike animals which adjust to their environment, men, according to Freire, live by a process of praxis (reflection and action). By reflecting on their conditions, and taking action to change these conditions, men seek ultimately to transform the world. The role of leaders in the process of praxis is to coordinate and direct the cause of the revolution, not to determine the actions of the oppressed people. "Scientific and humanistic revolutionary leaders . . . cannot believe in the ignorance of the people. They do not have the right to doubt for a single moment that [ignorance of the people]

is only a myth." As the people take control of the revolution, the leaders "must die in order to be born through and with the oppressed."³¹

In other words, true liberation can only be carried out by the people themselves. Leaders are important in coordinating the struggle. But they must not impose their own pre-determined solutions. The people themselves have experience, knowledge, skills and opinions which must be utilized in the process of liberation.

Starting from a completely different perspective, and conceived with different aims, Paulo Freire arrives at the same conclusion as Carl Rogers, Knowles and all other authors referred to above, that the learner must be involved in designing and implementing his own learning activities.

Summary

This chapter has suggested that most adult and nonformal educators tend to see formal education as rigid, teacher-centered, resource intensive, socially alienating and undemocratic. In contrast, adult and nonformal education is presented as flexible, learner-centered, resource saving, community related, democratic, and self-governing. This dichotomy tends to obscure the common areas of curriculum theory and practice between the two sectors. The

chapter agrees with Kidd and other adult and nonformal educators who suggest that the curriculum theory developed for the formal sector can and should be adapted to the nonformal sector.

The curriculum has been defined flexibly, emphasizing the importance of content, learning environment and specific goals. The chapter highlights the concept of three dimensions of the curriculum: viz the expressed, the implied and the emergent. While the expressed curriculum is known to all the people who may be associated with or know about the program, the implied and emergent may be partly hidden or vaguely implied in the rules, regulations, customs and the entire physical and social environment in which the program is conducted.

Educational philosophies and learning theories are often not discussed or even alluded to in most educational programs. But as stated above, they are derived from social theory. They express the assumptions that educators make about the purpose of education, the learning ability of different categories of people, and the utility of different kinds of educational contents. Educators use these assumptions as discriminating mechanisms in the process of curriculum development.

Educators who have not had formal training in teaching may for long periods be unaware of the assumptions they make about their area of teaching. Some accidentally re-invent the wheel or find themselves experimenting with theories and methods which have already been discredited. It is therefore important that educators be aware of the basic principles of education.

Among the dominant theories in nonformal education is the theory of needs. Learning needs are linked to other human needs. If an individual is able to satisfy a need, it means that that individual has developed the competence or learned to deal with that need should it occur again. Thus, educational objectives must be stated in a manner that spells out the knowledge gap which needs to be covered.

The chapter concludes with a review of the theories of Rogers, Freire and others on the need for educators who are sensitive enough not only to fathom the needs of the learners, but to assist their clients to develop into self-reliant learners.

In the following two chapters the discussion focuses on the growth of the FTC program, noting the extent to which the purposes of the program are clearly stated and understood by the FTC trainers and trainees,

and the relationship of that growth to the curriculum and learning theory discussed in this chapter.

FOOTNOTES

¹Kenya: Ministry of Agriculture, "Farmer Training Centres" Annual Reprot, 1963. Mimeo. And Kenya: Ministry of Agriculture, "Farmer Training Centers 1972-1976." Mimeo.

²Coombs, Philip H. with Ahmed, M. Attacking Rural Poverty: How Nonformal Education Can Help. Baltimore: The Johns Hopkins Press, 1978, p. 8.

³Ibid.

⁴Knowles, Malcolm S. The Modern Practice of Adult Education: Andragogy versus Pedagogy, New York: Associated Press, 1970, p. 54.

⁵Ibid.

⁶Simkins, Tim. Nonformal Education and Development: Some Critical Issues. Manchester: Bourne Month Ltd. Butts, 1977, pp. 12-15.

⁷Fordham, Paul. "The Integration of Formal and Nonformal Education," paper delivered at the Commonwealth Conference on Nonformal Education for Development held in New Delhi, India, January/February, 1979.

⁸Beauchamp, George A. and Beauchamp, Kathryn E. Comparative Analysis of Curriculum System, Wilmette, Illinois: The Kagg Press, 1972, p. 3.

⁹Sinclair, Robert L. and Ghory, Ward J. "Curriculum as Environments for Learning: A Practical Meaning and Model." Paper presented at the Annual Meeting of the American Educational Research Association in San Francisco, 1979, Mimeo.

¹⁰Morely, Franklin P. The Modern Guide to Effective K-12 Curriculum Planning. New York: Parker Publishing Company, Inc., 1972, p. 12.

¹¹Kidd, Roby J. How Adults Learn. New York: Associated Press, 1959, p. 273.

¹²Sinclair and Ghory. pp. 2-12.

¹³Brubacher, John S. Modern Philosophies of Education. New York: McGraw-Hill Book Company, Inc., 1969, pp. 329-364.

¹⁴Buford, Thomas O. Towards a Philosophy of Education. New York: Holt, Rinehart and Winston, Inc., 1969, pp. 424-471.

¹⁵Wingo, Glenn M. Philosophies of Education: An Introduction, Lexington, Massachusetts: D.C. Heath and Co., 1974.

¹⁶Mulusa, Thomas and Waka, Alice O. "Training the Youth for Employment" paper presented at the Science Education Programme for Africa Seminar held at Monrovia, Liberia, 1978.

¹⁷Lafrancois, A. R. Psychological Theories and Human Learning, Kongor's Report. Monterey, California: Brookes/Cole Publishing House, 1972, pp. 75-80.

¹⁸Skinner, B. F. Beyond Freedom and Dignity. New York: Alfred A. Knopf, 1971.

¹⁹Tyler, Ralph W. Basic Principles of Curriculum and Instruction. Chicago: The University of Chicago Press, 1949, pp. 5-6.

²⁰Knowles. The Modern Practice of Adult Education, p. 56.

²¹Dave, R. H. and Evans, David R. "Analysis of Learning Needs for Rural Development," International Institute for Educational Planning, UNESCO, Paris, 1974. Mimeo.

²²Wolf, R. "Evaluation of Institutions, Programs, and Curricula." Unpublished manuscript, Columbia University.

²³Maslow, Abraham H. Motivation and Personality. New York: Harper and Row, 1970.

²⁴Coombs and Ahmed. Attacking Rural Poverty, pp. 14-15.

²⁵Rogers, Carl K. Freedom to Learn. Columbia, Ohio: Charles E. Merrill Publishing Co., 1969, p. 304.

²⁶Ibid., pp. 2-9.

²⁷Ibid., pp. 304.

²⁸McGregor, Douglas. The Human Side of Enterprise. New York: McGraw Hill Book Company, 1960.

²⁹Illich, Ivan. Deschooling Society. New York: Harrow Books, Harper and Row, 1970. Curle, Adam. Education for Liberation, London: Tavistock Publications, 1973. Reiner, Everett W. School is Dead: Alternatives in Education, New York: Doubleday, 1971.

³⁰Freire, Paulo. Pedagogy of the Oppressed. New York: The Seabury Press, 1970.

³¹Ibid.

CHAPTER IV
EDUCATION FOR DEVELOPMENT WITH
SPECIAL REFERENCE TO FARMER TRAINING CENTRES

Introduction

Educational systems have undergone tremendous growth in the less developed countries over the past three decades. During the 1950's and 1960's, elementary education doubled while secondary and higher education virtually quadrupled. Public expenditure on education increased eightfold, from \$1.5 billion in 1950 to approximately \$12 billion in 1969.¹ The goals of education were, however, not clear. Leaders of the less developed countries, and their development advisers, tended to see education as a mechanism to produce the high level manpower required to manage the political and economic institutions of the country. Individual citizens saw education as a means for climbing out of the poverty. Thus, most people in the less developed countries saw a correlation between education and development and accordingly pressured their governments to expand educational opportunities in the 1950's and 1960's. Initially, secondary education developed faster than primary education in response to the demand for high level manpower.

Most of the less developed countries increased their expenditures on education, and soliciting loans and grants from the World Bank and other bilateral aid agencies to finance this. In some countries private investment in education was mobilized in the form of school fees, contributions to the development of community self-help schools and the establishment of privately-owned schools. The GNP spent on education by African countries rose from 3.0% in 1960 to 4.3% in 1965.²

Massive investment in school education did not appear to pay off in the short run. Unemployment and migration to urban areas continued to rise, notably among school leavers.³ Contrary to earlier expectations that schooling would promote unity and equality, it was noticed that the school in fact became a discriminating factor, widening the gaps between urban and rural children, and children from rich and poor.

Alarmed by the widening gap between urban and rural areas, the leaders and planners in the LDCs started to search for alternative ways of development which would make the rural areas more attractive to live and work in. This included alternative approaches to education. This chapter attempts to examine the context of a specific program of education for rural development, namely the Farmer Training Centre Program. The chapter is divided

into five sections: (1) conventional agricultural extension, (2) group approach to agricultural extension, (3) advantages of nonformal education, (4) Farmer Training Centres and (5) suggestions for post-independence reforms in agricultural education in Kenya.

Conventional Agricultural Extension

The purpose of extension systems all over the world is to provide an infrastructure for disseminating development information. The extension system is presumed to have the knowledge and skills which the target population needs in order to develop. Conventional extension relies on two delivery systems: (1) farm visits by front-line extension workers to instruct farmers on a one-to-one basis, and (2) the use of radio broadcasts, pamphlets and other media materials.

There is evidence to show that once messages are released through these channels, there is usually a time lag before they are incorporated into farming practices by the target population. Literature on the diffusion of innovations identifies five stages of adoption of new ideas:

1. Initial awareness of an idea, practice, or product;
2. developing interest in the new idea (innovation)

- and continuing to investigate it;
3. evaluation--weighing and sifting relevant information and evidence about the innovation;
 4. trial of the innovation, while collecting more information on "how to do it;" and
 5. adoption and integration of the innovation into ongoing operations.⁴

An individual who passes through the five stages of adoption rapidly and incorporates an innovation into his farming practices is known as an "innovator," or, in the case of farming, a "progressive farmer." Those who take long to accept and implement development messages are known as "laggards." Regarding diffusion of innovation, five categories of adopters have been identified: (1) innovators, who form about 2½% of their social system; (2) early adopters, 13½%; (3) early majority, 34%; (4) the late majority, 34%; and the laggards, about 16%. Advocates of conventional extension strategies see the early innovators as the key element in the process of innovation diffusion. They demonstrate that the innovation is feasible and worthwhile and influence the rest of the farmer community to follow their example. Hence the tendency among extension agents to concentrate effort and resources on the so-called progressive farmers.

Coombs and Ahmed indicate that many of the weaknesses of the conventional extension system spring from its structure.⁵ The system is hierarchical. a large number of para-professionals and relatively less qualified agents at the grassroots level are supervised by a succession of more highly qualified administrators and specialists at higher levels. Thus, the least qualified, most poorly paid, least influential and least motivated member of the extension system works directly with the farmer. Experience shows that those frontline extension agents who display competence in their work are often promoted to higher levels in the hierarchy, which entails their moving from field work to office work.

Furthermore, extension agents are often unable to communicate effectively. While most may have the required qualifications in the technical aspects of their profession, few have formal training in extension theory and methods. Poorly trained and untrained agents tend to see themselves as transmitters of new ideas and technology exclusively. They do not take the trouble to understand the background and the needs of the farmer, let alone to involve the farmer in deciding what should be learned and how learning should be organized.

A new school of thought, which is currently gaining ground, suggest that conventional extension systems

are based on weak foundations. The purpose of conventional extension is technological change, not human development. The system pays lip service to involving learners in decision-making, assessing the needs of the learner, and developing problem-solving skills, but in practice, information only trickles down to the bottom of the extension service with hardly any feedback from the bottom to the top. This school of thought advocates a "dialogical" model of extension in which there is more meaningful participation from the farmers.⁶

In Kenya, studies of conventional extension by Leonard and others have shown that development messages do not easily trickle down the extension hierarchy to the farmers.⁷ Grassroots extension agents waste a great deal of time waiting for orders from above on issues which should more appropriately be decided locally by field workers in consultation with the farmers. According to these studies, the extension system assumes that "there is nothing the people know at the local level which the government workers at that level do not know."⁸

Other studies by Ascroft et al have gone a step further to suggest that conventional extension might actually be exacerbating poverty in Kenya by concentrating government effort and resources on the progressive minority while virtually neglecting the less progressive

majority.⁹ Two examples of how extension could increase poverty should suffice. First, the advancement made by the progressive farmers would not have a visible impact on the total per capita production for the whole farming community in a given area. As noted above, the innovators, referred to here as the progressive minority, are only 2.5% of their social system.

Secondly, if the farming practices of the majority of farmers remain static, agricultural production declines. Traditional methods used efficiently at earlier periods--such as shifting cultivation to give agricultural land sufficient time to regain natural fertility or the use of bush firing to kill weeds and pests--become more wasteful and destructive to the land as population increases and the acreage of farming land per capita decreases. Accordingly agricultural production per acre declines unless new methods of maintaining fertility and destroying weeds and pests are evolved and adopted by a majority of the farmers.

Studies of agricultural extension in Kenya shed considerable doubt on the influence of early adopters over the less progressive farmers. The progressive farmers usually have greater resources to spare for seemingly unfamiliar experiments than their poorer and less progressive neighbors. The less progressive farmers tend

to see themselves as a lower and more disadvantaged social class, and do not therefore take the trouble to compete or to emulate the experiments mounted by their more wealthy neighbors. At times, the innovations adopted by progressive farmers may be mistaken for arrogant displays of their wealth or defiant behavior against established procedures of farming. The studies rightly point out that the farmers adjacent to government research stations or next to FTC demonstration farms have not shown any extraordinary propensity to change from their traditional methods of farming.

Conventional extension systems were effectively challenged in 1971, when the Kenya Government invited an ILO Mission to study its problems. The ILO Mission made an important contribution to the perception of the problems of rural development in Kenya, as explained in the next section.

Group Approach to Agricultural Extension.

The problem of growing unemployment during the 1960's was worldwide in scope. In 1969, the International Labour Organization (ILO) launched the World Employment Program (WEP) to study the causes of unemployment in selected countries, and to suggest remedial action and lines of further research.¹⁰

The ILO Mission pointed out that the challenge to the development process was to reach 1.7 million households living in the rural areas of Kenya in 1969. It was estimated that by 1985 the number of households in the country would increase to 2.8 million. Land holdings would become smaller in size and more difficult to manage. At the same time the food needs of the country would be increasing at a higher rate than the present trend of production.¹¹

According to the ILO study, the national food production had increased at the rate of 5% per year by 1970. The demand for food by urban areas was expected to increase at the rate of 10% per year. The increased demand for individual foodstuffs would be 4% for maize, sorghum and starchy roots; 4 to 7% for fruit, milk, pork, rice, vegetables and wheat; and over 7% for beef, eggs, fish, mutton, poultry, sugar and vegetable oils. The aggregate food demand would grow faster than supply. An average growth of at least 6% per annum was required to keep pace with the needs of the country.

A new strategy for higher food production would entail land redistribution and reform, reclamation of unused and underutilized land and intensification of land use for both crop and animal production. The ILO Mission suggested that with efficient land use, one hectare of

land would provide sufficient food for an average family plus a cash income to purchase the basic necessities of life.

The structure and approach of conventional extension did not seem to have the capacity to mount the kind of revolution required to make Kenya self sufficient in food production. The Mission recommended that agricultural extension be altered to place more emphasis on group and mass extension techniques instead of the traditional approach to the individual farmer.

However, the Mission cautioned that "a great deal of experimentation will be required before truly effective methods of group extension work and farmer training can be devised."¹² The group approach envisioned by the Mission would classify farmers according to the degree of "progressiveness." Farmer Training Centres would then plan courses for each level of progressiveness identified in the FTCs' catchment area. The courses would also be graded so as to provide for gradual development from elementary to more advanced competencies.

In 1964, a Government policy statement had said that the FTC Program was part of the conventional agricultural extension service, although some extension workers had doubted the impact of the program on agricultural development. In 1966 and 1967, the Kericho Conference

and the Agricultural Education Commission respectively suggested that the FTC Program was one of the back-up mechanisms within the conventional agricultural system. Both the Kericho Conference and the Agricultural Education Commission pointed out that the role of the FTC Program was limited to serving a minority of the progressive farmers who had access to information about FTCs and were motivated to adopt more scientific methods of farming. The ILO Mission made a major departure from conventional wisdom by suggesting that the FTC Program was potentially more effective than conventional extension, and that the Government should shift from uncoordinated conventional extension approaches to more systematized group extension built around the FTC. The ILO proposal was in step with the growing interest in nonformal education all over the world during the early 1970's.

Both the FTC Program and the non-residential farmer training courses discussed in this study fall within the category of programs defined as nonformal education by Coombs and Ahmed.¹³ The definition states that nonformal education is any systematic learning event or program taking place outside the chronologically graded and hierarchically structured system on the lines of the formal school system. In this study, systematic educational events and programs

taking place outside the school system are referred to as "structured courses."

Advantages of Nonformal Education

During the 1970s nonformal education attracted considerable attention in the LDCs as a possible means of educating and harnessing the energies of the out-of-school population. Proponents of nonformal education claimed that these programs would have more direct and immediate impact on development than the formal schools. It was convincingly argued that NFE programs were (a) cheaper to run, (b) more accessible to the whole community, including the poor and disadvantaged individuals, (c) more relevant to the needs of the target population, and (d) easier to modify and to adjust to ever changing educational and development needs. Whether valid or not, these assumptions considerably intensified interest in NFE during the 1970's, and accordingly influenced the LCDs and international aid agencies to allocate more resources to NFE.

The next section of the chapter focuses on the development of a specific NFE program, in Kenya, i.e., the Farmer Training Centre Program.

Farmer Training Centres

Residential courses for farmers have had a long and

varied history in East Africa. The first course at a Farm Institute in Uganda was conducted at the Teso District Ploughing School in 1910. In Kenya, residential courses for farmers were introduced at the Jeanes School near Nairobi in 1934. However, organized courses did not assume importance in agricultural extension in East Africa until the mid 1950's.

In Uganda, the Farmer Training Program owes its origin to a recommendation of the Government Agricultural Productivity Committee of 1954 which proposed that eight District Farm Institutes (DFI) be established in the country. Each Institute was intended to serve two administrative districts with roughly similar environmental conditions and land use systems. The sharing of one DFI between two districts proved impractical after a short spell, forcing the government to review its policy and to provide for one DFI per district. By 1960, five DFIs had already been constructed, and by 1965 the number of institutes had risen to ten.¹⁴

Initially Uganda institutes provided courses lasting three to four weeks for chiefs, headmen and other leadership groups. By 1965, the course duration was cut down to one to two weeks, and the courses were expanded to cover agricultural staff and farmers in addition to local leadership groups.

Tanzania did not have a group approach to farming during the colonial period. Agricultural development was primarily dependent upon the conventional extension hierarchy, with African agents, the "Bwana Shamba," placed at the base of the hierarchy to enforce government farming rules and regulations. The concept of Farmer Training Centres seems to have evolved soon after independence.

At independence, Tanzania planned to have twenty-six FTCs, roughly one in each region or province. By 1965, three of the FTCs were in full operation, two more were under construction, and six were at the planning stage.¹⁵

The Tanzanian FTCs started with five to six weeks' courses for agricultural extension workers and local leaders and subsequently were expanded to encompass small scale farmers. Course duration for the farmers, in particular, was reduced from five or six weeks to one week.

Kenya had three FTCs in 1955, and by 1965, the number had grown to twenty-seven with residential facilities for 1,442 trainees.¹⁶ The Government operated twenty centers, the National Christian Council of Kenya (NCCCK) operated five centers, the Kenya Tea Development Authority (KTDA) operated one and one of the local government authorities, Kipsigis County Council, had one center. There were plans to build ten additional Government-maintained FTCs, making it possible for each rural district in

the country to have its own FTC. The target learners were farmers, local leaders and agricultural extension workers, especially Junior Agricultural Assistants (JAA). The centers were also expected to provide conference facilities for courses in business management for small scale traders, health and family planning education, civic education, and cooperative development education.

A statement issued by the Ministry of Agriculture in 1964 further clarified the role of the FTC program in Kenya.¹⁷ The statement described an FTC as a residential center with facilities to accommodate 30 to 100 trainees at a time. The program consisted of short courses on crop and animal husbandry. According to the Ministry statement, the demand for FTC courses was expected to increase in response to the changes taking place in the land tenure system and the rapid expansion in the production of cash crops and the rearing of economic livestock. The Ministry further pointed out that 51% of the population of the country was composed of children below the age of fifteen years. Many of these young people, who would eventually settle in rural areas, would require FTC training since most of them were likely to miss opportunities to receive basic formal education.

The Ministry saw the FTC Program as part of conventional field extension. "The center and its staff are

part of the general extension service of the district. The courses held are related to, and are part of the general development policy of the area."¹⁸

In Chapter II, a distinction was made between large scale FTCs and other farmer training programs on the one hand and the conventional FTCs on the other. The latter fall into two categories. About thirty FTCs are operated by the Government, either by the Ministry of Agriculture or by the Ministry of Livestock Development. The six non-government FTCs run by the National Christian Council of Kenya and Kipsigis County Council, are integrated into the government rural development programs which work directly under the local District Agricultural Officer.

However, the Ministry statement expressed concern about the expansion of the FTC Program while existing facilities were underutilized. In the next section, the gathering momentum towards reform of agricultural education in Kenya including the FTC Program is discussed.

Suggestions for Post-Independence Reforms to Agricultural Education

The year of independence for Kenya, 1963, was also a turning point for the country's educational system. In 1963, the Ministry of Education appointed a Commission to

review the existing system of education and to advise the Government on future policies. The Commission mentioned in passing that the extension work of the Ministry of Agriculture and Animal Husbandry, through their advisory officers and the FTCs, was an important complement to the function of Community Development. It suggested that District Training Centres (DTCs), which came under the Department of Community Development, should, where necessary, share the premises of the FTCs.

The Commission noted that of the 103,400 primary school leavers in 1964, only 26,200 were placed in secondary schools, career training programs, and wage-earning employment.¹⁹ About 67,000 school leavers had no prospects for wage-earning employment or further education. The school leaver problem did not, however, represent the whole problem of unemployment in the country. A substantial fraction of the youth joined the ranks of the unemployed without passing through the school system. As stated by the Ominde Commission, "a large percentage of the nation's growing number of children never see the inside of a school" throughout their lives. "Quite apart from considerations of social justice, the absence of so many citizens from the influence of our schools is a constant drag on development."²⁰ The Government of Kenya subsequently requested the University College of Nairobi

to organize a conference to examine the triple issues of education, employment and rural development. Details of the conference are discussed in the next chapter along with the historical growth of FTCs.

Summary

This chapter opens by looking at the area of organized education and pointing out that in the early 1960's LDCs became disillusioned with formal education. In most LDCs formal education seemed to increase the number of unemployed out-of-school youth, the rural-urban migration, the gap between the poor and the rich and all the ills of underdevelopment.

Attention was gradually turned to development of education for the out-of-school populace. It was, however, realized that conventional extension seemed to increase the misery of the poor rural people while helping those who were better off to become even wealthier. Attention was therefore focused on nonformal education which promised to offer relatively cheaper, more accessible and more relevant education than either formal education or conventional extension.

A number of organized out-of-school educational activities in Kenya fitted into the concept of nonformal education. Of these the FTC Program emerged in Uganda,

Tanzania and Kenya as a regular educational activity in the 1950's.

In Kenya, soon after independence, the FTC Program was included among the educational programs subject to review in order to better serve the needs of an independent country. Details of the steps taken to reform the FTC are discussed in the next chapter, along with development of the whole program.

FOOTNOTES

¹Ward, F. C. (Ed.) Education and Development Reconsidered: The Bellagio Conference Papers. New York: Ford Foundation/Rockefeller Foundation, Praeger Publishers, 1974, pp. xv-xxii.

²Ibid.

³OECD, "Aid to Education in Less Developed Countries." Organization for Economic Co-Operation and Development, Paris, 1971, pp. 1-6.

⁴Rogers, E. M. Diffusion of Innovations. Glencove, New York: The Free Press, 1962, pp. 81-86, and Lionberger, H. F. Adoption of New Ideas and Practices, Ames, Iowa: The Iowa State University Press, 1964.

⁵Coombs, P. H. with Ahmed, M. Attacking Rural Poverty: How Nonformal Education Can Help. Baltimore: The World Bank Research Publication, The Johns Hopkins University Press, 1978, pp. 10-13.

⁶DeVries, J. "Agricultural Extension and the Development of Ujamaa Villages in Tanzania: Toward a Dialogical Agricultural Extension Model," Ph.D. Thesis, Madison: University of Wisconsin, 1978.

⁷Leonard, D. K. Rural Administration in Kenya: A Critical Appraisal. Nairobi: East African Literature Bureau, 1973; Ascroft et. al. "Does Extension Create Poverty in Kenya" in East African Journal, March, 1972; Mbithi, P. M. Rural Sociology and Rural Development: Its Application in Kenya, Nairobi: East African Literature Bureau, 1974.

⁸Ouma, Oyugi W. "Participation in Development Planning at the Local Level," Institute for Development Studies, University of Nairobi, Working Paper No. 25, March 1972, p. 14.

¹⁰International Labour Office. Employment, Incomes and Equality, Geneva, 1972, pp. 160.

¹¹Ibid. p. 151.

¹²Ibid. p. 152.

¹³Coombs with Ahmed. Attacking Rural Poverty.
pp. 22-24.

¹⁴FAO, "Farmer Training in East Africa: Report of a Seminar held in Kenya at Egerton College, 21st to 30th March, 1965," Rome, 1966. Mimeo; and FAO, "Farmer Training in East, Central and Southern Africa," Geneva, 1975, Mimeo.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Kenya: Ministry of Agriculture, "Farmer Training Centres," Annual Report, 1964, Mimeo.

¹⁸Ibid.

¹⁹Kenya: Kenya Education Commission Report Part I,
Nairobi: Government Printer, 1964.

²⁰Ibid. p. 139.

C H A P T E R V
THE ROLE OF THE FARMER TRAINING CENTRES IN THE
DEVELOPMENT OF KENYA

Introduction

The first residential training program for farmers in Kenya was organized in 1934. This early program was intended to develop strategies for reaching and educating rural people. Nearly fifty years later, the program does not seem to have gone beyond the experimental stage. Basic questions on who the trainees should be, who should conduct the training and what should be taught still remain unresolved. Through a review of the history of the program, this chapter presents and discusses some of the problems associated with the program. The discussion is presented under the following headings:

- Evolution of the FTC Program
- Influences from the Kericho Conference
- Agricultural Education Commission
- The FTC Program During the Independence Era
- District Development Centres
- Group Approach to Extension
- The Soya Beans Group Extension Project in the Lowlands of Kisii
- Equator Community Education Project

Evolution of the FTC Program

The FTC Program was originally evolved in Kenya as part of the Community Development Program of the Jeanes School. The school was situated near the capital, Nairobi, and was intended to develop ways of reaching and educating rural people.¹ The first program of the school was intended to train all-purpose community teachers who would use primary schools as bases for implementing a program of general community improvement incorporating strong elements of agriculture and health. From the outset the Jeanes' community teachers were seen as misfits in the conventional extension system, as they represented no specific government department, and had no mandate from the indigenous people to implement any development program. The indigenous people had no reason to dislike a program aimed at improving their health and agricultural production, but their priority, at that time, was to get their children through the formal education system.²

After trying unsuccessfully to establish a course for agricultural instructors as early as 1934, the Jeanes School embarked on a course for small scale farmers in 1936. These efforts were reinforced by a paper issued by the British Colonial Office in 1935 on the education of African Communities.³ The paper encouraged the

school's strategy of experimenting with different approaches to adult education and community development. The experiments were abandoned in 1939, however, and the school facilities turned over to a training center for British forces in Eastern Africa during the Second World War.

Meanwhile, the Department of Agriculture, whose programs were mainly oriented towards research in crops and animal husbandry, embarked on a program of training extension workers. The Jeanes School teachers helped to develop a residential farmer training curriculum to parallel a curriculum for the extension workers. The farmer training component incorporated an element of practical farming at the training center. The first training center at Bukura in Western Kenya was provided with small-holdings on which trainees would practice more scientific methods of farming in groups. At the end of the course the farmers were expected to transfer both the new methods of crop production and animal husbandry and the concept of group farming to their home areas.

The Jeanes School came back to civilian use after the war, starting as a demobilizing center for ex-service-men. The curriculum of the school incorporated courses on teaching methods, agriculture, health, probation, British Legion, business management for small scale traders

and cooperative development. In 1948, programs in weaving, spinning and other areas of education and training for women were introduced. In 1949, the rural orientation of the school was reinforced with a policy to incorporate agriculture in all courses.⁴ In 1950, the school made a major departure from the extension approach of the Department of Agriculture by mounting small scale farmers' training programs independently of the training of extension workers.

The strategy of these courses was to give opportunities to innovative farmers, i.e., those who had shown signs of adopting new methods of farming, to acquire more skills and knowledge in crop production and animal husbandry and the management of small-holdings.⁵ In addition to courses in agriculture, the farmers received lectures in civics, simple economics, cooperative organization, health education, and community development. During the course, the trainees visited local farms, relevant development activities, and other places of interest. The students themselves were also a learning resource. While staying together they shared knowledge and experiences from their varied geographical and social backgrounds.

As the training program for farmers took shape, the Department of Agriculture published a new policy statement proposing a system of mixed farming which was

designed to enable an African farmer to raise sufficient food for his family plus a cash income of £110 (\$330) per year.⁶ On the education and training aspects of the plan, the paper noted:

Agricultural education of the farmers requires constant contact with them with as wide a range of influences as possible, not only by the agricultural and veterinary staff but by ensuring that the African Administration and cooperative societies have the right approach also. The education of the farmer can be made more specialized by running short or long courses for him at Farm Institutes or by banding him into farmers clubs and societies for educational purposes or for cooperation.⁷

V The Jeanes School farmer training program ran into difficulty mainly because the Department of Agriculture was developing a rival program. The Jeanes program, which took two months, was thought by agricultural extension workers to be too long. The mixing of farmers from different regional backgrounds in the country was in the Jeanes program intended to have educational advantages: farmers were expected to learn from the different backgrounds of their colleagues. However, the Department of Agriculture pointed out that mixing up farmers from different parts of the country raised design issues in preparing a program that would meet the needs of individual course participants. As a result of these criticisms the policy was modified to provide for recruitment of course participants on a regional basis, or from areas with

similar physical and social environments, and the length of courses was shortened from two months to a maximum of three weeks.

Specific officers within the Department of Agriculture were more openly opposed to the Jeanes School program. The District Agricultural Officer (DAO) for Embu District advanced the following objections to the Jeanes School program in an interview with E. S. Mbugua from the head office of the Department in Nairobi:

1. It [the Jeanes school] caters to the whole country and is therefore unable to understand problems particular to any one district.
2. The normal five week courses are too long for farmers to be away from their homes.
3. Its officers do not tour the districts frequently enough to keep pace with current developments.
4. Inclusion of civics and other subjects in a farmers course is a waste of time.
5. There is no examination at the end of the course.⁸

Ultimately an agreement was reached between the Jeanes School and the Department of Agriculture that the Jeanes School would be used for short specialist courses, and advanced courses for farmers who had already been to a Farm Institute. Furthermore, the school would be used for courses in community development and teaching techniques for agricultural instructors. Jeanes' teachers would visit Farm Institutes to advise instructors and

would regularly organize conferences for agricultural teachers.

In 1961, after organizing only one course for agricultural teachers, the Jeanes School closed permanently. The country, meanwhile, developed politically to self-governing status and eventually into an independent sovereign state in 1963. As part of this development, the Departments of Agriculture and of Veterinary Services were both brought under the Ministry of Agriculture. All the Farm Institutes and practically all the veterinary and animal breeding centers became known as Farmer Training Centres (FTCs).

Meanwhile, the FTC Program showed signs of relative decline in terms of (1) the number of farmers participating in agricultural courses, (2) frequent cancellation of courses, (3) decline in the morale of FTC principals and instructors, and (4) general under-utilization of FTC facilities. The Kericho Conference on Education, Employment and Rural Development in 1963 had considerable influence on the development of the FTC Program.

Influences of the Kericho Conference

The Kericho Conference on Education, Employment and Rural Development addressed a wide range of issues under four main headings: Rural Development, Employment,

Education, and Financing Development. Education was conceptualized broadly as expressed in the words of the Conference:

One of the chief tools with which to achieve this rural transformation is education and training in their many forms--as much the education of the adult farmer in new techniques and attitudes, as much training in cooperation and the management of credit, as much the education of women as the education of children and adolescents in formal schools and universities.⁹

One of the nine conference papers on education entitled "Farmer Training as a Strategy of Rural Development."¹⁰ In that paper, the writer noted that the concept of farmer training was nebulous and hardly understood by policy-makers. Hence the tendency of government and other development agencies to allocate more resources on educational programs which were better understood, especially those in the formal sector. There were no definite ideas among those responsible for agricultural education on what the educative needs of the farmer were and more specifically on (1) the areas of farm activity where training was required; (2) comparative advantage of investment in agricultural education; and (3) the prerequisites for effective implementation of agricultural education.

The paper asserted that agricultural education had long been clouded by the assumption that peasant farming in third world countries was only a passing stage in the

progress towards large scale, capital intensive, and tractorized-estates on the pattern of the United States and the Soviet Union. Better understanding of the constraints of the peasant farmer in recent times has led to the realization that peasant economy in less developed countries has had its own course of development which is determined by local environmental and social constraints.

Seen against a large-scale farmer in the Western countries, a peasant farmer in a poor tropical and sub-tropical country has greater varieties of weeds, pests and soil conditions with which to contend and has had to develop his own sophisticated methods of dealing with intricate farming problems. For example, the paper pointed out, (1) intercropping is used by the farmer to create appropriate micro-climates for his system of farming and to conserve labor; (2) use of a succession of fields enables the farmer to secure maximum value from poor soils; (3) annual fires control crop pests and disease; and (4) a long period of bush fallow regenerates soil structure. Thus the peasant farmer "lives by his wits," distributing his risks into several food crops, cash crops, livestock and non-agricultural ventures, while at the same time allocating his limited resources of time, money and manpower accordingly.

The paper implied that the FTC trainee was usually the middle level "progressive farmer" who had accepted such innovations as line planting, the use of chemical fertilizer, rearing exotic animals and the application of other basic scientific methods of farming. Less progressive farmers did not have the motivation to acquire new methods of farming through structured courses. However, the most progressive farmers could not afford the time to participate fully in FTC Programs. More often than not, they businessmen or held full-time wage employment. Generally, they had high formal education qualifications and would not benefit from the elementary courses given by FTCs.

According to this paper, studies done by Vuyiya and Dusenberry, in Kenya and Uganda respectively, found that one week's courses at an FTC were more effective in changing farming practices than all previous exposure to traditional field extension.¹¹ Given careful implementation, systematic farmer training could have a greater multiplier effect than conventional extension.

The paper suggested that the main problem inhibiting the growth of FTCs was the low quality of staffing. Ideally, a well staffed FTC needed a principal with university qualifications or post secondary school diploma;¹² a vice-principal of diploma level; from two to five

instructors of Technical Assistant level; one or two domestic science demonstrators; one farm management specialist; and one veterinary worker. In practice, there were no university graduates teaching in the FTCs, and there were very few, if any diploma level staff. Staff turnover was high, the most qualified staff tending to get out of the system the fastest because FTC work and conditions of employment were unattractive. The duties of the FTC were heavy and supervision strict, and there were no prospects for promotion. Most important of all, there was no financial compensation for all these sacrifices.

The following questions were highlighted by the paper as those to be addressed in a search of a suitable FTC curriculum:

What teaching materials are suitable to FTC instruction?

How can local research be incorporated with minimum delay?

Can FTC carry on its own feasibility research?

How should FTC profitability be adjudged?

Should local extension staff attend with the farmers from their area?

How can family needs be catered to while farmers are attending courses?

Should junior staff receive on-the-job training?

Where ought funds to be derived from for general service to the community?

What should be the scale and emphasis of the demonstration farm?

Which FTC operations ought to be mechanized?
How can local government be drawn into a meaningful relationship?

Who should coordinate the FTC Program with rival institutes or departments?

What level of ministerial supervision is needed to ensure quality control?¹³

In conclusion, the Kericho Conference recommended that the FTC had several roles to play in the development of technical knowledge and leadership among rural communities. However, the conference noted that the primary responsibility of the FTC was to provide agricultural education. Whatever innovation was made should not divert the program from agriculture to general community development programs.¹⁴

The Kericho Conference underscored the importance of farmer training, but pointed out that there appeared to be no professionals who knew exactly what the farmer ought to learn, and how learning should be organized for small scale farmers. Theoretically, learning in groups was easier to organize and possibly cheaper than individual instruction. However, the writer feels that research done by Vuyiya and Dusenberry, which tended to suggest that one course at the FTC was more effective than many years of

exposure to conventional extension, should be interpreted with caution. The number of farmers who attended FTC courses at the time of the research was insignificant when looked at against the whole body of the farming community. It is possible that farmers surveyed by Vuyiya and Dunsenberry were very highly motivated to learn the one course that took them to the FTC. Their reactions to the course cannot be generalized to the rest of the farming population. Also, it is not easy to determine how much exposure to extension service they had before they attended the FTC course and prior to the research. It is not clear what objective measurements were made apart from interviews conducted while the farmers were still under the excitement of attending a residential course.

The conference paper on farmer training suggested that a majority of the farmers could not benefit from specialized training. FTC training was mainly beneficial to the progressive farmers who had accepted the basic principles of scientific farming and were highly motivated to break away from traditional farming practices.

If indeed the FTC Program was intended to serve the progressive farmers, then the writer would argue that it was not therefore surprising that FTC courses repeatedly failed to recruit sufficient numbers of trainees. Progressive farmers form a very small fraction of the farming

population, and as noted in Chapter III, most of them either are beyond the elementary courses offered by the FTC Program or have too many occupational commitments to find time to participate in FTC courses. It can be argued, with some justification, that if the FTC Program was intended for progressive farmers, there was no underenrollment or underutilization of FTC space.

The list of problem areas proposed for further investigation gives the impression that the whole of the FTC system was ailing, or the list did not identify the most critical areas for investigation. At least, the policy issues such as the use of the demonstration farm, sources of funds, involvement of local government authorities and coordination with other training programs needed to be separated from the professional issues which the program planners could manipulate.

The Kericho Conference was concerned with the whole range of educational programs in the country and could not have gone deeper into the FTC Program than it did. The conference recommended that a special body be established to review agricultural education.

The Agricultural Education Commission

In 1965, the Government of Kenya proposed to set up a commission to review the four levels of agricultural

education and training, namely (a) university education; (b) intermediate level agricultural education and training; (c) farmer training; and (d) agricultural education in schools and teachers colleges. The Agricultural Education Commission started meeting on January 1, 1967, and by February 21st of the same year the Commission accomplished its task and submitted a report on its findings to the Ministry of Agriculture.¹⁵

The Commission noted that the FTC Program was complementary to field agricultural extension.¹⁶ The program provided farmers with systematic exposure to new ideas. The FTC courses had been changing gradually from general courses of two to three months' duration to shorter and more situation specific seminars and conferences of one week's duration or shorter periods. The Commission recommended the integration of agricultural education with cooperative development, adult literacy, local leadership training, 4K Clubs,¹⁷ leadership training, and training for the leaders of women's organizations. The Commission further recommended that the agricultural program be expanded to include a series of extra-mural field units established at divisional headquarters, chiefs' centers or market places.¹⁸ The field units would make useful information centers, disseminating information from the FTCs to the farmers, and enabling FTC staff to gain

deeper insights into the problems and needs of the farmers.

The Commission recommended, with reservations, that each district in the country should ultimately have its own FTC. Records of attendance and use of existing FTCs did not, however, show a high or growing demand for FTC courses. In fact, there was an observable decline in farmers' courses, and it was noted that the construction of more centers would not necessarily generate greater interest in the program.

To improve the low morale of the teaching staff, the Commission recommended that FTC administrators and instructors undergo special training. Those who were specially trained should receive a bonus on top of their salary plus financial rewards for the long working hours and heavy work load associated with the FTC work. To bridge the gap between the FTCs on the one hand and field extension workers and the communities supposed to be served by the FTCs on the other, the Commission suggested that FTCs come under boards of governors. Some of the following individuals were proposed to serve on the boards of governors: the District Commissioners (as chairmen of the boards); chairmen of district cooperative unions; local leaders; District Agricultural Officers (DAO), District Veterinary Officers (DVO), a representative from the local

government authority and leaders of voluntary agencies and social associations.

The Commission felt that FTCs did not cater sufficiently to women trainees. Yet, they formed a large portion of course participants, and their numbers in courses showed signs of rising even higher. Some of the smaller FTCs were not equipped to accommodate both men and women at the same time, and did not, for example, have appropriate facilities for mothers with young babies. The Commission recommended that all FTCs be provided with accommodations for women. Women instructors should be employed at all FTCs. The content of home economics courses should be broadened to include a wide range of home, farm, and community activities.

The Commission recommended that in view of the relatively large number of illiterate farmers attending FTC courses, it was necessary to improve the efficiency of teaching staff through training and retraining in the art of teaching. The FTC learning environment needed to be enriched with audio-visual aids, including real objects, specimens, models, photographs, flannel graphs, posters, newspapers and bulletins. The more media used, the Commission report asserted, the greater the impact. But the Commission conceded that teaching aids only assist a teacher; they were no substitute for a good teacher. The

Commission suggested that a well equipped FTC would become a resource center for the farming community, and a strategic point from which Method Demonstration Programs should be launched.

Finally, the Commission made an analysis of the FTC capital and recurrent expenditure and concluded that the large FTCs accommodating about 100 learners had lower trainee costs per day than small FTCs serving about 25 learners. However, it was pointed out at the same time that large FTCs were more difficult to organize and run efficiently, or to maintain personal relationships and contact between the teaching staff and the trainees.

Closely associated with the FTC expenditure was the maintenance of a demonstration farm. Apart from serving as a teaching resource, the Treasury required FTC farms to generate funds to offset operating costs. The Commission felt that operating the FTC farm on a commercial basis could not be reconciled with the teaching function which was the main purpose of the FTC Program. It recommended that FTCs should hold sufficient land for both teaching and demonstration purposes. Any excessive land should be run separately as a commercial venture.

Surprisingly, some of these sound recommendations were not implemented, namely the establishment of boards of governors, improvement of the conditions of service for

FTC trainers, provision of special facilities for trainees with babies, and setting up FTC extra-mural units. Other recommendations, such as construction of additional FTCs, were already in government plans and so continued to enjoy high priority although the Commission gave them less importance.

The Commission recommended, as stated above, that agricultural education be integrated with cooperative education, adult literacy and other content areas considered part of rural development. The concept of "education for integrated rural development," often known as "the integrated model," seemed to be interpreted in Kenya as "integrated education for rural development." The recommendation of the Agricultural Education Commission reinforced this interpretation by naming the areas of learning to be integrated.

Assuming that such integration was desirable, how would an educator do so in practice? For example, what would be the appropriate mix for such areas of concern as: tomato growing, grain storage, the use of contraceptive devices, the powers and duties of cooperative officials, poultry feeding, and others? Who would decide what areas were relevant to a specific group, e.g., coffee farmers? Would the integrated package be a collection of lecture topics or one subject?

To curriculum developers, the Kenya concept of the so-called integrated model remains a riddle. To a nonformal educator, integration of educational contents is a senseless exercise which does not address a specific development problem or educational need.

The FTC demonstration farm tends to be large scale, both in acreage and the mode of production, e.g., level of mechanization. It can therefore be argued that the demonstration farm, as presently constituted, is not a realistic teaching tool for a class of small scale farmers. The Commission objected not to the size of the farm and the level of capital input and sophisticated production, but to the amount of staff time taken for the farm, and the demand by the government that the farm should make a profit. However, there need not be conflict between the teaching function and running the farm economically. If a large farm took longer hours from teaching staff the solution is to increase the staff. A farm not run economically would hardly be an effective teaching tool, i.e., an effective demonstration of the practicality of the innovative messages disseminated by the FTC.

The FTC Program During The Independence Era

During the colonial period the strategy of the government of the time was skewed towards development of

agriculture in the areas of the country settled by white farmers. African areas, known then as native reserves, were mainly seen as sources of cheap labor for commercial farming in the white settled areas. In the 1950's the Swynnerton Plan, and progressive opinion within the colonial government started to advocate development of agriculture in African areas. The objective of the new approach to African agriculture was to create a middle class of relatively wealthy and contented Africans who would support the colonial government. However, these efforts came too late to divert African nationalists from the struggle for complete independence and transformation of the economy. When Kenya became independent in 1963, government policies were reviewed and reformulated to reflect the aspirations and needs of the new nation.

In 1964, the Government of Kenya published the first national development plan. The plan noted that there was a need for the Government to promote African participation in every sphere of the economy, and to prepare the African for new roles through programs of education and training.¹⁹ Regarding the FTC Program, the Plan suggested that while its role was important in disseminating new practices, its impact was limited in terms of the number of farmers who could be trained. The plan therefore proposed the construction of 13 new FTCs at a

cost of £210,000 (\$630,000) in an effort to provide every district in the country with its own center.

The 1966 Development Plan more boldly shifted development emphasis to the African areas, where 80% of the Kenyans lived. The plan proposed the construction of four new FTCs during the development period in addition to the existing 30 centers.²⁰ The 1970-74 Development Plan proposed that the scope of instruction at FTCs be broadened to include such subjects as health and adult literacy.²¹ Two centers, at Matuga and Embu, were selected to experiment with the proposed broad curriculum. If the experiment succeeded, all FTCs in the country would be converted to multi-purpose training centers known as District Development Centres (DDC). The DDC experiment continued into the 1974 to 1978 development period. Meanwhile, the plan for this period proposed the construction of two additional FTCs.²²

The actual development problems in the FTC Program were reflected in the annual reports. The 1964 report showed increased participation over 1963.²³ The increase was attributed to the rise in attendance of women from 19% in 1962 to 34% in 1963 and 50% in 1964. The main attraction for women was the home economics course. Out of 578 courses held in the year, only 25 were over 15 or more days' duration while 342 courses

were within the six days' range or shorter. However, while there was a gradual increase in the number of FTCs, this was not matched by a corresponding rise in the number of course participants. As a matter of fact there was a relative decline in the utilization of available space. In a policy statement, the Government questioned the wisdom of further expansion of FTC facilities. The Government statement expressed the hope that the FTCs would increasingly use any resources not fully used by farmers to educate the youth and nonagricultural groups.

The annual report for 1969 highlighted the National Seminar and Workshop on Farmer Training held at the Kenya Institute of Administration and attended by all FTC principals, Provincial Agricultural Officers, District Agricultural Officers and officers from the Ministry head office.²⁴ The seminar noted that while the number of courses had increased from 927 in 1968 to 940 in 1969, the overall attendance had dropped from 32,352 to 31,486 respectively. The participation of farmers had dropped substantially, considering that during the same period the number of learners attending nonagricultural courses increased by 1,655, i.e., from 13,642 in 1968 to 15,297 in 1969. Similarly, the number of 4K Club's participants had increased.

The home economics course which attracted many women trainees to the FTC was not well supported by qualified home economics extension workers in the field. The Ministry had only five Assistant Agricultural Officers posted at the provincial level to coordinate the home economics programs. The communication gaps between the field and the FTCs affected all courses. The function of trainee recruitment has handled by field extension workers, and due to lack of transportation and other logistical problems, most FTCs did no follow-up and field evaluation of their trainees.

The seminar recommended that FTCs should set aside periods of two to three weeks a year for field work. The main purpose of field work was to bridge the gap that seemed to exist between the FTCs and both the field extension workers and the farmers.

The main problem with FTCs highlighted by the seminar was staffing. Of the 29 FTCs in the country at the time, two had three principals each in one year, and two had two principals. Only one principal in the whole program had the desired university qualifications. Of the rest, 16 were Assistant Agricultural Officers holding a diploma in agriculture, and 7 were Agricultural Assistants holding the lowest professional qualifications in agriculture. Similarly, staff turnover was high and

professional qualifications low among vice-principals and instructors.

The annual report for 1971 showed that home economics continued to be a popular course leading to a very high rate of adoption.²⁵ The general agricultural courses, however, continued to decline. Many scheduled courses were cancelled or only a small portion of the expected trainees turned up. Some centers were forced to close down during part of the year. The main reasons given for partial closure of FTCs and decline in farmers' courses were lack of funds, ineffective recruitment, poor turn out for courses, breakdown of the FTC bus, priority given to staff courses, failure to plan ahead, rise in course fees, drought, and famine.²⁶

Following the K.I.A. National Seminar for FTC principals, two other conferences were held at Kabete in 1972 and at Mombasa, Oceanic Hotel, in 1973.²⁷ The 1972 Conference underscored the importance of the FTC as the nucleus for all extension activities, and the need to have staff with high and suitable qualifications at each FTC. On the curriculum, the seminar recommended that each FTC should have a curriculum review committee comprised of representatives from the Provincial Agricultural Office, the District Agricultural Office and the FTC. Each course should allow sufficient time for practical work,

demonstrations, field trips, follow-up and evaluation. Some courses should be geared to the needs of the farmers and carried to the field where the farmers were. The farmers should be categorized and a bank of information kept about them. The curriculum was then divided into six broad areas:

Animal and Crop Husbandry

Home Economics

Bee Courses

Range Management

Rural Water Supply

Specialized Courses

Three major suggestions emerged from the conference: (1) There was need for field extension staff to participate in designing courses for farmers alongside FTC instructors. (2) In order to disseminate knowledge effectively, FTC instructors had to select their methods of instruction and teaching aids carefully. The following teaching methods were recommended: demonstration; group discussion; field trips; and brainstorming. On teaching aids, the conference listed slides, pamphlets, posters, charts, models and "live visuals" as some of the most appropriate. (3) On improvement of FTC staff, the conference proposed the creation of an attractive career

structure providing for four job grades: principal, vice-principal, lecturer and instructor.

As stated above, the Agricultural Education Commission had recommended that government field administrators and local leaders should serve on FTC management committees in order to establish a firm relationship between the FTC and the target community. The Ministry of Agriculture and the Conference of FTC Principals seemed to favor a management committee consisting of officials and technicians from the Ministry of Agriculture, with the District Agricultural Officer (DAO) as Chairman and the Principal of the FTC as Secretary. Other members of the committee would be the District Land and Farm Management Officer (DLFMO); the District Animal Husbandry Officer (DAHO); District Veterinary Officer (DVO); District Extension and Training Officer (DETO); District Livestock Officer (DLO) and Divisional Assistant Agricultural Officers (DAAO).

The annual report for 1972-1976 affirmed that after a long struggle the Ministry of Agriculture had finally convinced the Treasury that FTCs were doing a valuable job and deserved more money to meet their operational costs.²⁸ Beginning in July 1976, the FTCs were allocated higher grants, but the Treasury expected better performance both

in terms of improved training programs and higher revenue from the FTC farm in return.

The report suggested that with higher grants, the FTC would become a more attractive place for the farmer, and the FTC "farm would become a shining example of what could be achieved under different local conditions." The report optimistically asserted that, "the farmer will continue to come back so long as the FTC offers something new and beneficial."²⁹

The report encouraged instructors to be innovative and to make use of all available materials while developing new materials to meet the needs of their respective FTCs. The writer of the report criticized the teaching methods used by FTC instructors as follows:

I have noted long boring lectures in the classroom coupled with a lot of blackboard writing, even exercise books are being issued to farmers to copy notes.³⁰

The report then showed that while the space at FTCs increased by 60 places from 1,610 in 1972 to 1,670 in 1973, and courses increased from 1,117 to 1,133 respectively, attendance dropped from 22,054 to 21,960. Recruitment was seen as the main problem affecting attendance. In 1972, 296 courses were cancelled or failed as compared to 344 courses in 1973.

The downward trend continued in 1974 as illustrated on the below:

	<u>1973</u>	<u>1974</u>
Planned Courses	1,123	1,075
Failed or Cancelled	344	457
Courses Run	777	626
Farmers Courses	432	349
Non-Farmer Courses	345	267
Mixed Courses	389	328
Men Only Courses	300	220
Women Only Courses	83	68

Source: "Farmers Training Centres Annual Report 1972-76," p. 64.

In 1975, there was a 6% increase in the number of learners attending courses. At the same time, the number of courses planned declined from 1,075 to 931 and the number of student days declined from 118,726 to 112,406. The program showed signs of recovery in 1976 when attendance rose by 16% over 1975, and the number of student days increased from 112,406 to 164,465. But attendance was still 65% of the expected level. Non-farmer courses and 4K Club courses tended to inflate attendance. In other words, those courses which were purely farmer courses were not growing and could hardly on their own justify the existence of the program.

District Development Centres (DDC)

The FTC Program originated from community development programs and for a long time functioned side by side with District Training Centers, which were run by local government authorities and supervised by the Department of Community Development of the Central Government. As noted earlier, the education reforms commissions appointed after independence came under some pressure from community development and adult education workers to merge the FTC Program with education and training programs from other government and non-government extension agencies. Neither the Ominde Commission nor the Weir Commission came out strongly in favor of a merger under the label of multi-purpose training centers. The notion of such a center was, however, kept alive by the Board of Adult Education, established in 1966.³¹

The case for multi-purpose training centers, known as District Development Centres (DDC), as an alternative to FTCs and other rural training programs, is set out in the National Development Plan for 1974 to 1978 as follows:

The District Development Centre will be multi-purpose centres and will eliminate the existing uneconomic duplication of adult training facilities. They will co-ordinate training programmes which currently do not support or complement each other; provide better facilities and better qualified instructors; and provide the means for developing an adequate career structure for the

training staff. The programmes in these centres will be directly geared to comprehensive and balanced development of the districts and will become the focus for all extension work in the district.³²

In 1975, the Board of Adult Education published a booklet "Curriculum for District Development Centres" listing the courses to be offered. Later the same year, a longer document on the curriculum of the DDC was published.³³ The objectives of the curriculum are stated as follows:

The short term objectives.

1. To coordinate rural informal educational activities through an integrated approach combining extension and complementary services and linking related elements of education together so that their impact can be greater.
2. To determine priorities of training for the community in both formal and nonformal education and to encourage educational activities so as to function as an apex of rural adult education.
3. To provide in-service facilities for extension staff of different arms of the government and voluntary organizations and simultaneously to provide training and education for the farmers, artisans, craftsmen and entrepreneurs for better occupational skills and to complement such skills with services like those of co-operatives, literacy campaigns, youth clubs, etc.
4. To encourage the development and continuity of education from formal and informal levels to non-formal levels.
5. To provide the venue and adequate facilities for organizing educational and cultural classes, club meetings, national festivals, etc. and also to promote cordial human relations among the masses and extension workers and create a group feeling among

junior and senior civil servants and the masses in the interest of easy communications.

6. To involve the local community in planning, implementation and participation in development-oriented activities of the area and the centre and thereby encourage citizens' participation in the process of rural development, developing among the rural people the understanding, skills and above all the dedication and enthusiasm for rural development.
7. To support the above objectives by developing course contents, teaching materials, and techniques of adult education adapted to the local community traditions and customs.

Long term objectives.

1. To promote economic well-being by improving occupational skills; social well-being by promoting cordial relationships among members of the groups and among groups; cultural uplift by reviving cultural activities and in general to improve the quality of life in rural areas.
2. To mobilize the resources and human energies by the expansion of non-formal education for development of rural areas.
3. To assess the impact of the DDC in the rural counties as a result of an integrated approach to training.
4. To slow down the rural-urban migration of youth by providing the unemployed with immediate employment opportunities through training for occupational skills.
5. To "evolve" an attractive career structure for adult educators and trainers at rural training institutions for adults.
6. To develop a viable research system to produce teaching materials and to improve techniques of teaching adults.
7. To "evolve" a comprehensive administrative and financial structure for Kenya's multitude of training centers.³⁴

The document pointed out that the course listings, referred to as standard curriculum, provided a framework for developing more need-based courses. In practice, the paper added, it would not be possible to give equal treatment to a number of related areas taken together as one course. The courses would therefore have specific areas of focus, and the local environmental problems, and the expressed needs of the learners, would determine the final content and shape of a course.

As far as possible, the document recommended that the timing of lessons had to take account of the seasonal activities of the learners. The DDC staff should draw on the experience of field extension workers when developing their courses. Whenever feasible, field extension workers should teach in courses relevant to their work alongside FTC instructors. At specified periods, DDC staff should visit the field on follow-up evaluation exercises. The courses for illiterate trainees should rely heavily on field visits, group discussions, audio-visual aids, and practical demonstrations.

Reflections on the DDC Program

The first two DDCs have been running alongside conventional FTCs for the past seven years. There is no evidence that the former is taking over the role of the

latter. Like the FTC, the DDC Program has remained experimental, searching for a role to play in development.

Both DDC instructors and course participants tended to identify with course content related to their profession, in spite of the declared integration strategy of the program. For example, agricultural instructors saw non-agricultural units of their course as irrelevant to farmers. The five-day duration for most DDC courses was too short. It was not possible in five days to explore all the interrelated facets of a development problem. The purpose of the one-week course at the FTC was to focus on one specific area of competence. A shift to inter-disciplinary courses recommended for the DDCs would probably require longer training periods.

The two sets of objectives proposed for the District Development Centres deserve further comment. It is not clear, in the first place, why it was necessary to classify the objectives of an institution which was going to become a permanent feature within Kenya as "short term" and "long term." The "short termness" and "long termness" of the objectives was neither explained in the document nor self evident. There was no indication, for example, that short term objectives would be accomplished before, or in shorter periods of time than, the long term objectives. What was most disturbing is that there was no

relationship drawn between the two lists of objectives. The short term objectives were not shorter steps or cycles in the process of achieving a specific long term objective.

There is a tendency for development planners in Kenya to focus on change-making education programs rather than on the actual problems from which the educational program should emerge. The DDC Program is a case in point: its objective was to design parcels of knowledge which would be used to solve problems of rural development. It is possible that researchers in rural development in Kenya during the late 1960's and early 1970's believed that such parcels of knowledge existed or could be invented. The search was therefore not directed to the more practical area of "Education for Integrated Rural Development."

A search for a fixed curriculum which would solve development problems seems to run counter to the main precepts of nonformal education. Indeed the listing of courses in the fixed course outlines prepared for the DDC have not been much utilized even within the DDC settings.

Some of the proposed objectives of the DDC strayed into government policy and other extra-curricular areas in which the DDC staff would have very little influence if any. For example, DDC staff would have no influence over: determining the priorities of training for the community both in formal and nonformal education sectors; involving

the community in planning and implementation of development activities; evolving a career structure for adult educators; and evolving administrative and financial structures for Kenya's "multitude" of training centers.

Conceptually the two lists of objectives had numerous errors. The first short objective, for example, suggested that the DDC program would coordinate "rural informal educational activities through an integrated approach." How could informal education be coordinated? Informal education is defined by Coombs and Ahmed as

the life long process by which every person acquires and accumulates knowledge, skills, attitudes and insights from daily experiences and exposure to the environment--at home, at work, at play; from the example and attitudes of family and friends; from travel, reading newspapers and books; or by listening to the radio or viewing films or television.³⁵

It would be impossible even in a police state to coordinate this sector of education. In any case, if it were controlled and coordinated, it would cease to be informal and becomes either formal or nonformal. Another objective proposed the "development and continuity of education from formal and informal levels to non-formal levels." It is not clear what "levels" this context refers to. As defined above, the three domains of informal, formal and nonformal exist side by side. Nonformal is not higher than formal and/or informal education.

One of the main long term objectives was "to assess the impact of the DDC in the rural counties as a result of an integrated approach to training." First, the assessment of the impact of the DDC would be a measurement of how far the DDC objectives had been achieved, not a major objective of the DDC. Secondly, the curriculum designers assumed that the "integrated approach" was already known. In fact, the DDC objectives should have spelled out what the "integrated approach" was.

All the objectives were stated in a vague and clumsy manner. The first long term objective was as follows: "to promote economic well-being, by improving occupational skills" These slogans have often been used in rural development rhetoric to cover unclear development problems and concepts. For example, is economic well-being the same as economic growth? Does economic growth promote the welfare of all members of society? Do occupational skills necessarily promote the welfare of the people or create jobs? These and many other concepts used in the proposed DDC curriculum lack precision and coherence.

The two lists of curriculum objectives did not define or clarify the role of the DDC Program. Nevertheless, the first two DDCs were established in 1976 and immediately embarked on a review and refinement of their

curriculum. A more detailed discussion of the DDC curriculum does not fall within the scope of this study.

The Group Approach

During the early stages of the development of structured courses for small scale farmers at the FTC, course participants were organized to run small-holdings on the FTC farm in groups.³⁶ The purpose of the group farm was to give trainees practical experience which would be transferred to individual farms in their home settings. As the population of the country started to increase rapidly in the 1940's, with the improved standards of health, overcrowding and fragmentation of land into uneconomic units became a problem for extension workers. The notion of group farming was therefore adopted as one of the possible ways to preserve optimum land units for efficient farming.

The concept of group farming is not described in detail in the available literature. The plan envisaged farmers residing in the same area combining their land units into one farm. Probably the homesteads would be moved into one village at one spot within the farm. Somehow members of such a collective would jointly plan how to share responsibility for farm inputs and labor on the one hand, and the harvest on the other.

Attempts were made from 1947 to 1949 to implement the system in Western Kenya. But when the system was extended to Central Kenya, it met with such formidable resistance that in 1954 it was declared a failure. Emphasis on land management shifted thereafter to land consolidation.³⁷ The process of land consolidation and registration was started in Central Kenya during the Mau Mau rebellion in the 1950s. After independence, the land consolidation process received the support of the popularly elected government of the country. In a "Back to the Land" speech in 1964 Jomo Kenyatta, then the Prime Minister of independent Kenya, said:

Our greatest asset in Kenya is our land. This is the heritage we received from our forefathers. In land lies our salvation and survival. It is in this knowledge that we fought for the freedom of our country. Whatever our plans for the future, they must spring from a resolve to put to maximum production our land, however small the acreage we may possess.³⁸

Unlike group farming, the goal of consolidation was to establish individual ownership. However, both policies were intended to put land to "maximum production."

The notion of a group approach to farming was also implied by the Agricultural Education Commission, which recommended that each FTC should operate a series of extra-mural field units. These units could be established

at divisional and chiefs' centers, as well as at market places, with very little additional cost. The units would serve a useful function not only in informing farmers about FTCs, but also in enabling the FTC staff to know the needs of their target population. It seems that the emphasis was on a center that would disseminate information, and not on organizing learning groups. However, the local setting of the proposed extra-mural units are interpreted in this study to be service centers for groups of farmers that live within the same neighborhood.

The group extension did not die with the process of land consolidation and individualized land ownership. The next two sections examine two group extension experiments selected from the different rural development experiments conducted in Kenya in the past two decades.

The Soya Beans Group Extension Project in the Lowlands of Kisii

The Kisii Soya Beans Project was intended to develop a strategy for mobilizing the rural masses for more rapid development.³⁹ The study asserted that traditional extension tended to focus attention and effort on farmers who were already doing well, thereby increasing imbalance between "progressive" and "unprogressive" individuals and regions. The study suggested that conventional extension

was based on a model which consists of "(a) demonstration for, (b) individual, (c) most progressive farmer."⁴⁰ The outcome of this approach was early adoption by the few participants who had easy access to extension services; and little or slow spread-over effects thereafter to other farmers.

The study proposed an alternative approach consisting of "(a) demonstration, (b) cum training, (c) cum input provision for, (d) groups of, (e) average farmers." The expected result was "Early adoption by a large number of the participating group members, and a subsequent strong spreading over effect."⁴¹

The project plan listed the following as the basic elements of the new approach:

1. The coordination of services for farmers (extension training, input provision);
2. the change from the individual to the group; and
3. the change in the target group from most progressive to average farmers.⁴²

The project was undertaken by the University of Nairobi, Insititute for Development Studies (IDS) at the request of the Kenya Ministry of Agriculture. The IDS was specifically asked to monitor the implementation of the project, to take note of the strengths and weaknesses of the design and to support alternative solutions to any problems identified.⁴³

The project selected six sub-locations of lower Kisii for demonstration. Each sub-location had twelve half-acre plots which belonged to a cluster of twelve "average farmers." Demonstration sessions were organized on a group basis. The cluster of twelve farmers gathered on one of the plots for demonstration, and thereafter eleven of the farmers were required to repeat the demonstrated process on their individual plots. In preparation for the project, extension workers in the project area and instructors from the local FIC were briefed on the project strategy and trained on how to instruct participating farmers and to conduct follow-up activities.

The Kisii Soya Beans Project was a replication of earlier studies, in particular the Tetu Special Rural Development Project (SRDP) Extension Pilot Project which was intended to use the group approach to disseminate rural development innovations.⁴⁴ The SRDP was a five-year experimental program launched by the Kenya Government in 1971 to develop strategies for accelerated rural development. The experiment was tried out in six different locations in the country. The Tetu Extension Pilot Project was perhaps the most successful of the different elements attempted by the SRDP all over the country. At least the researchers (a) designed a model for training farmers; (b) implemented it; and (c) showed that the farmers had

adopted new agricultural practices. Otherwise the SRDP was abandoned in 1976 as having failed, from the point of view of the Government, to develop specific innovations which could be replicated in the rest of the country.⁴⁵

Unlike conventional extension, which often works with and through individual progressive farmers, the Soya Beans Group Extension Project deliberately selected a group of "average farmers" for the pilot trial. The learning needs of the farmers were carefully analyzed and appropriate training programs designed and implemented. The frontline workers who would supervise the farmers were given special training at the FTC. The researchers then made periodic visits to the field to supervise the farmers' activities and to evaluate their performance.

The Soya Beans Project raised a number of questions which remain unanswered. The pilot project was conducted by specialists in rural development from the University of Nairobi. There was no clear indication how the model would be replicated throughout the country. Would the frontline extension workers be expected to conduct the sophisticated needs assessment and training exercises which preceded the pilot project?

The pilot project provided free seed, fertilizer and all the essential agricultural inputs to the farmers in the experimental group. In fact the free inputs for

seem to have been a great incentive to the farmers. The project did not specify who would provide agricultural inputs for replication of the project on a wider scale. Other relevant questions are: Would agricultural inputs be provided for all innovations in the future? Would inputs be provided for only the experimental stage or would the Ministry of Agriculture have to take on the responsibility of supplying farming inputs to all farmers in the country? If inputs were to be provided only during the experimental stage, what would be the cut off point between the experimental stage and the implementation stage?

The ILO Mission on Employment, Incomes and Equality proposed that farmers would have to be classified according to their degree of progressiveness for the purpose of training. In 1973, the FTC Principals Conference held at the Oceanic Hotel in Mombasa endorsed the idea of classifying farmers according to progressiveness. The Soya Beans Project seems to have assumed that the criterion for determining progressiveness was so established that it did not need clarification. Hence the project made no attempt to explain who an average farmer was and why he should be the first to be exposed to innovations.

The study claimed that the spread of an innovation from average farmers to the rest of the farming population would be stronger and faster than from progressive farmers. In the opinion of the writer the study failed to make a convincing case that the average farmer was a more effective disseminator of innovations than a progressive farmer. In the absence of compelling arguments in favor of any category of farmers as efficient disseminators of innovations, it seems reasonable to assume that the spread of innovations from any individual farmer or group of farmers to the rest of the farming community is difficult, irrespective of the level of progressiveness of the first farmers to adopt the innovation.

If the average farmer adopted new ideas earlier than the progressive farmer, it is unlikely that the two could maintain their respective positions vis-a-vis progressiveness. It seems that once the average farmer took the first step in adoption, he would automatically change position with the progressive farmer, i.e., the average farmer would become progressive and the other, average.

The study did not say whether a group of average farmers used as innovators in one project became a permanent vehicle for dispensing innovations, or whether a fresh group would be selected whenever a new idea had

to be introduced in a rural community. The average farmer was important to the design of the Soya Beans Project, and attempts should have been made to specify who in this category of farmers would be used in the process of innovation adoption.

The writer feels that as an experiment in group approach to agricultural extension, the Soya Beans Project was a failure. The focus on the average farmer as a key element in the process of extension diverted the thrust of the project from the original intention to develop a group process. Like conventional extension, the Soya Beans Project relied on a select elite to disseminate an innovation. The main difference was that the Soya Beans Project was nominally aimed at the average farmer while the conventional extension elite has always been known as the progressive farmer. In fact, the two models had exactly the same basic design.

Any positive results obtained in this project should mainly be attributed to the detailed planning done by the researchers and the intensive training and constant supervision of both farmers and extension agents. Free inputs must also have encouraged farmers not to let down their benefactors. No less important was the "Hawthorne Effect": the farmers knew that good results were expected of them both by government extension agents and the

researchers from the University of Nairobi, and accordingly cooperated to produce the desired results.

Equator Community Education Project

Increasing unemployment and relative decline in food production in Kenya in the post-independence period indicated that there were weaknesses in agricultural development and other sectors of rural development. Research into rural development suggested that conventional rural extension and farmer training were unresponsive to the majority of the rural people. The wealthy minority, who seemed to benefit from the existing extension system, were too few to change the economy of the country on their own, and too isolated from the rest of the social milieu to influence the unprogressive majority.⁴⁶ Attempts made in the SRDP to develop new strategies for rural development were not fruitful. A study of the Vihiga-Hamisi SRDP sponsored by the International Institute for Educational Planning (IIEP) in 1976 suggested that (1) most of the people in the target community and some of the individuals and agencies responsible for implementation of the program were not clear about the objectives of the SRDP, (2) the target community was not involved in decision-making, (3) the development agencies involved did not coordinate their programs effectively, (4) some of the experts who

participated in program implementation did not have sufficient knowledge of the local environment and the target community, and (5) the educational components of the SRDP were not sufficiently identified and developed.⁴⁷

Like the DDC Program and the Soya Beans Project, the Equator Community Education Project was an attempt to continue the search for effective methods of rural development. The writer designed the project in 1975 when the SRDP seemed to be coming to an end without making any significant additions to what was already known about the problems of rural development. The writer's interest in the Vihiga-Hamisi SRDP earned him a place in the team of five educators sponsored by the IIEP to study the determination of learning needs in the Vihiga-Hamisi SRDP. Following the IIEP study, the writer was involved in another study in the area funded by the Science Education Programme for Africa (SEPA) to investigate traditional skill training methods for youth. During the IIEP and the SEPA studies, the writer gained deeper insights into the problems of rural development and accordingly refined the Equator Project design while continuing the effort to raise funds for the project. The Project was approved for funding by the Bernard Van Leer Foundation of Holland in 1978, but for various management problems was not implemented until 1980.

The Equator Project was built on the following assumptions:

1. Traditional extension based on visits to individual farm holdings by extension workers and lectures at public meetings or using other mass media approaches have proved ineffective.
2. The FTC, as then organized, was only equipped to perform one of the two important roles of field extension, i.e., training. It was not equipped to play the role of motivation and education in a broad sense.
3. Neighborhood-based learning groups would bring together people with different backgrounds and facilitate the sharing of skills, knowledge and experience which different members bring with them to the group.
4. The curriculum developed for locally-based learning groups was likely to be relevant to the needs of the target community and to establish meaningful linkages between agriculture and other aspects of rural development.
5. The role of the extension agent was made easier when individuals from the target community were organized into development groups working on similar projects and were able to come together for the purpose of getting new information and other inputs from outside the group.

The objectives, design and implementation steps of the Equator Community Education Project are summarized in the project workplan for the first year. The objectives of the project were:

- To sensitize the target community to the development needs of their immediate environment and the problems of rising youth unemployment;
- To involve the community in planning and implementing work-oriented education for both youth and adults;
- To design and develop strategies which reach out to involve poor and disadvantaged groups in the process of development; and
- To increase and diversify rural production in the project area.⁴⁸

Before the project was launched, a thorough study was made of (1) the physical environment, with special focus on how topography affected land use, (2) population density and land ownership, (3) educational provision for pre-school children, school-age children, and the adult population, and (4) employment prospects and the income levels of the target population.

The project was started with small scale youth training pilot projects to test the style of entry into the community. The pilot projects specifically investigated (1) how to arrive at the true needs of the community; (2) how to establish viable development groups and (3) how to develop a sense of self-reliance among the development groups.

Project initiators who adopted the title of Project Advisors to emphasize the collegial relationship between them and the target community held meetings with different groups and individuals in the community. The following groups held frequent meetings with Project Advisors throughout the pilot phase: members of Gimomoi Village Polytechnic Management Committee; the instructors and students of Gimomoi Village Polytechnic; Gimomoi Women Group; Assistant Chiefs and the Chief for the area.

Project advisors gained a deeper insight into the following development problems:

1. Whenever members of the community were challenged to state their needs, they tended to name public services like roads, bridges, schools, water development plans and hospitals, rather than personal needs like food, shelter and income;
2. skill training for out-of-school youth was based on conventional professions like carpentry, tailoring and building, whether such skills were needed or not;
3. the skill trainers who were supposed to help out-of-school youth to become self-employed entrepreneurs had very little business experience themselves;
4. skills training for out-of-school youth and economic

- enterprises by women groups tended to fail due to lack of management skills;
5. the grassroots government field administrators exercised considerable influence over their communities and
 6. a number of community institutions and groups such as religious organizations and women groups had compelling influence over their members.

The two most important key people in the target community were chiefs and assistant chiefs. They were part of the government field administration which came under the Office of the President of Kenya. In their areas of jurisdiction, chiefs and assistant chiefs were small presidents, vested with power over law and order, security, public administration and coordination of development programs. During the initial period of colonialism, chiefs were recognized as traditional leaders. They were given wide powers over their people by the colonial government, powers which were entrenched into the legal system of the country. Chiefs and assistant chiefs had more statutory powers than the Senior Administrators above them, i.e., District Officers (DO), District Commissioners (DC), and Provincial Commissioners (PC). A chief could use the powers vested in him by the Chiefs Act to declare a state of emergency in his area and to impose restriction on movement, or to

intervene in family disputes. The law did not give such powers to the DO, DC or PC.

Without the support of chiefs and assistant chiefs, the project could not harness sufficient support from the community to take off. Other key persons identified and consulted on the needs of the community and the suitability of the intended project were church leaders, extension workers and politicians. When the project was launched these key persons were used to advertise the project and to establish the project management committee. Once the project was established, formal links with religious leaders were severed to avoid dragging the project into the conflicts between the churches represented in the project area.

The most important social structures identified and utilized by the project were organized women's groups. At the beginning of the project there were four women's groups in the area registered with the government as legal societies. An indefinite number of other groups existed unofficially, which were either in the process of disintegrating or amalgamating to form new groups.

Women's groups are not a new phenomenon in Kenya. Some groups have their roots in traditional cooperation among women living in the same area to support each other (a) at times of illness, (b) during cultivation and times

of establishing a new home, or (c) on a permanent basis to preserve local crafts, customs and values. During the colonial period, the Department of Community Development reinforced women's groups by organizing them for the purpose of learning new skills and working together on home improvement projects. The groups were organized into a national network under one umbrella organization known as "Maendeleo ya Wanawake," or "Women's Progress."

The Equator Project identified existing women's groups and worked with leaders to reinterpret their group programs so as to encompass project objectives. Weaker groups were encouraged to organize themselves and to register with the government as legal societies. Where no women's groups existed the project encouraged the local community to establish new groups to join existing groups in the neighborhood. Finally, the project campaigned with the support of key persons to get men admitted into the groups. Eventually the names of some of the groups were changed from "Women Groups" to "Development Groups" or "Self Help Groups."

At the end of the first year, the project had 37 groups with a membership of about 2,000 people spread fairly evenly in a population of 30,000. In addition, the project took an interest in 41 pre-school units, nine youth clubs, three village polytechnics and 24 adult classes in

the project area. The central program of the project was built around women's groups, and the main curriculum was simplified to one question: "What can we do to increase our food production, incomes and employment opportunities?"⁴⁹

During the first year the groups embarked on different activities including (a) the use of more fertilizer, manure and specially selected seed to increase the yield of food crops per acre, (b) the production of new crops to increase the range of food crops and cash crops in the area; (c) the use of irrigation to intensify production during the dry season, (d) emphasis on high protein crops, (e) rearing economic livestock, and (f) establishing rural industries to produce timber, bread, knitwear, metal goods, clothes and other processed goods for the local market.

The Equator Project, like most of the rural development experiments conducted in Kenya in the 1970's, attempted to address two crucial issues in nonformal education, namely (1) the relevance of organized educational programs to the development needs of the rural communities, and (2) the participation of rural people in deciding what should be included in their educational programs and how the learning should be conducted. In contrast to conventional extension, which normally tends to have no fixed

learning groups and specific programs of action, the Equator Project was built around neighborhood-based learning or development groups working on development tasks determined by the members of the groups.

The Equator Project provided for a management structure which could open up to allow for greater community participation in the development of educational programs than conventional extension as illustrated in Figs. 5.1 and 5.2. Fig. 5.1 (page 144) shows that the FTC is not fully integrated in the extension hierarchy. The routine of the frontline workers and the plans and programs of the extension coordinators at district and divisional levels are not related to specific FTC training programs. Representatives of the community, the local government authorities, and central government ministries apart from the Ministry of Agriculture are not included in the body responsible for the management of the FTC.

The crucial elements of the Equator Project, Fig. 5.2 (page 145), are the learning or development groups. No extra cost or changes in the existing extension structure would be required to establish and to work through specific development groups. By working through groups, it is possible to plan a long term development program for each group, and it is clear what sections of the farming community are interacting with the extension service.

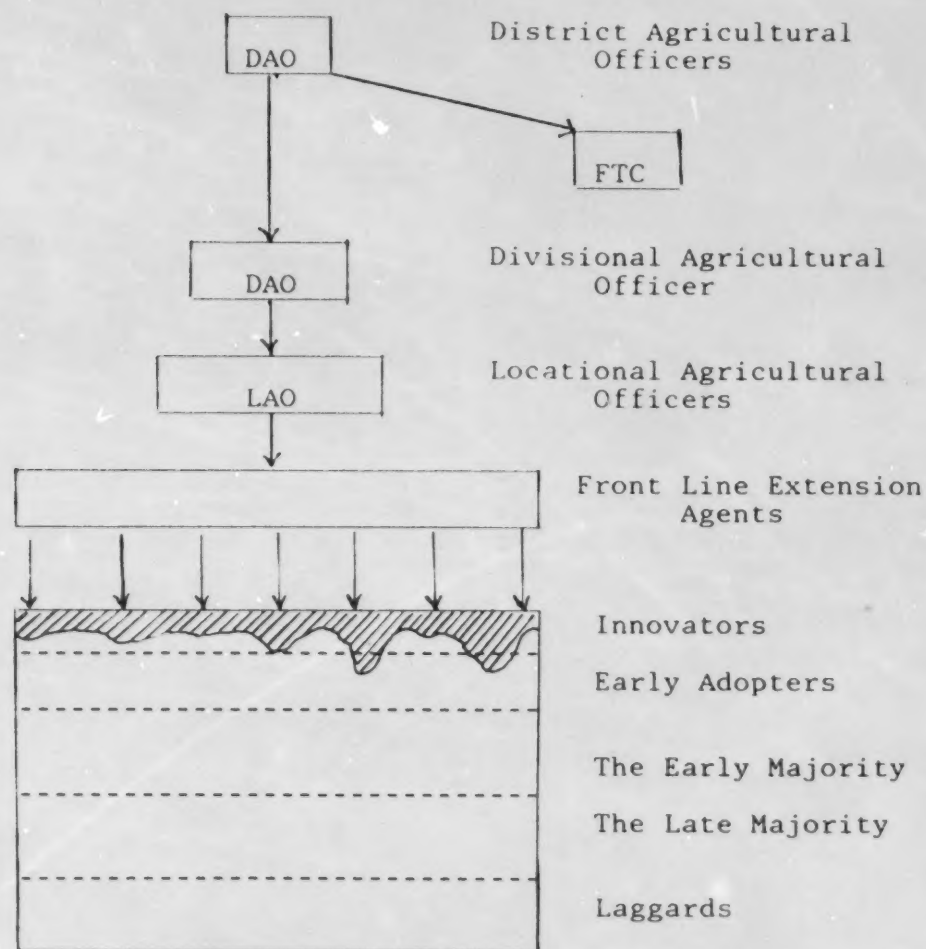
The proposed management structure of the FTC is desirable but not essential. Once the frontline extension agents are organized to respond to the needs of specific development groups, the FTC would in turn have a strong program as a back-up system. This would provide retraining services for frontline workers and special training for needs, which require long courses and special demonstration and cannot be catered to in a one-day course conducted in the field.

A cursory examination of the thirty-four groups participating in the project suggests that two groups are composed exclusively of farmers who seem to fit the description of innovators. These groups have made rules and regulations which tend to exclude the poor farmers. About five groups are comprised of farmers who may be categorized as the late majority, and laggards in their social system. The rest of the groups have a mixture of farmers drawn from different categories. The leadership seems to come from the adopters and the early majority. These are (1) the farmers with higher educational qualifications than the average for the community, (2) the high income individuals who either are in wage employment or have a business or both, and (3) professional people and local leaders like primary school teachers, extension workers, retired civil servants and local politicians.

A majority of the participants would fall roughly into the categories of early adopters and late majority. The innovators who are not inclined to seek leadership roles in the group seem to keep out, except for those who have banded themselves into the two small groups referred to above. The poorest of the poor are generally shy to join the groups. Most of this information is tentative and needs to be documented further and analyzed at the end of the second year when the project is expected to reach maturity. It is hoped that after two years the euphoria of having a new project will have subsided and the farmers will be responding more naturally.

Like a cooperative, a development group is intended to help members to buy and sell on favorable terms. The group structure generates intra-group and inter-group dynamics which facilitate circulation of ideas and information among group members. The project is in part based on the assumption that interaction between group members would lead to more widespread adoption of innovation. The project invited government extension workers to use the groups to disseminate government policies and new development information. The group setting was seen as a compelling learning resource. If the material to be learned could not fit into a one-day session, then a residential course at a Farmer Training Centre was contemplated.

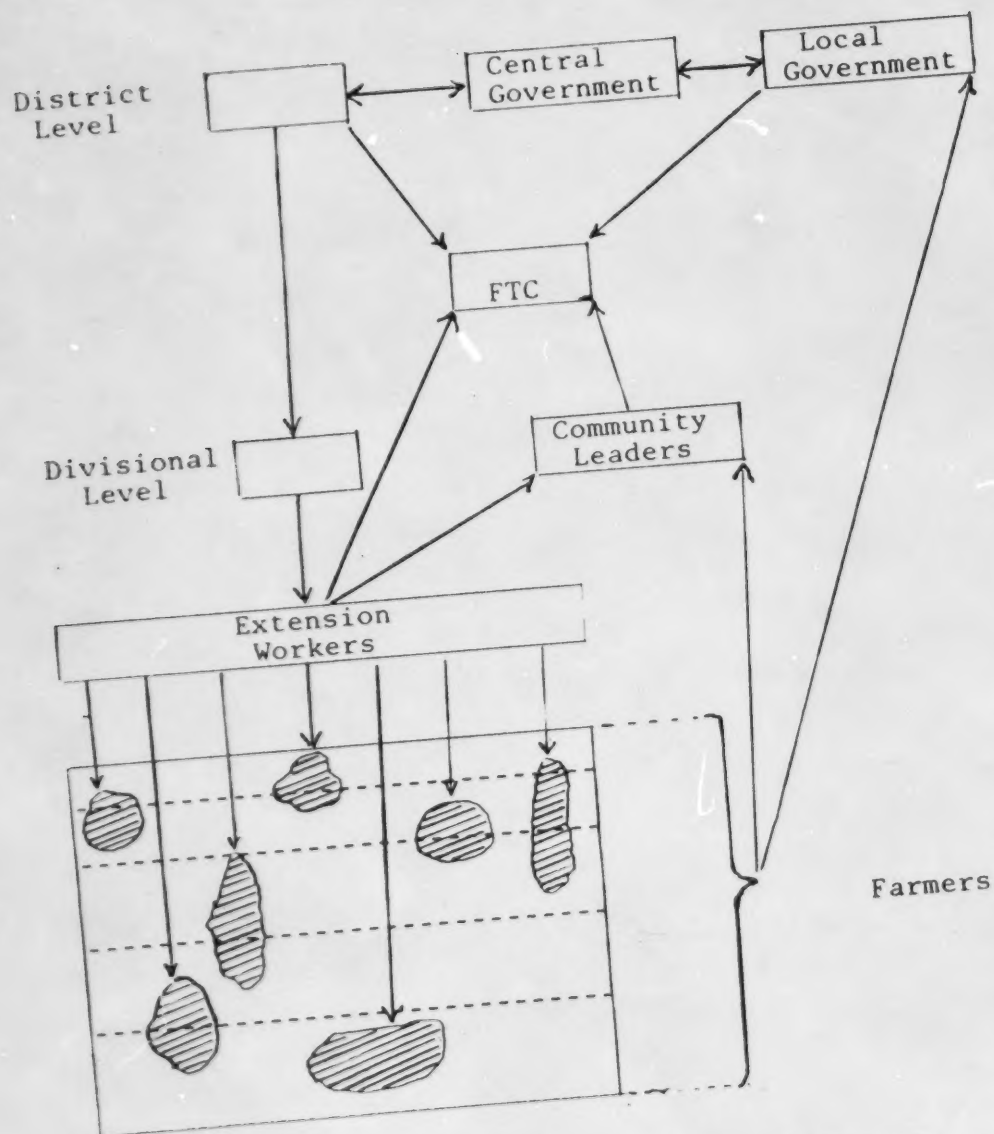
Fig. 5.1. The Structure of Conventional Agricultural Extension in Kenya.



Source: Combination of the Chain of Command in Extension Services by Coombs, Phillip H. and Ahmed, Manzoor, Attacking Rural Poverty: How Nonformal Education Can Help, Baltimore: The Johns Hopkins University Press, p. 28, and a graphic representation of the description of adopted categories in Rogers, Everett Diffusion of Innovations, New York: The Free Press of Glencoe, 1964. pp. 159-192.

Shaded area represents the farmers who interact with the extension service.

Fig. 5.2. Proposed Structure for the Equator Project.



Summary

The idea of residential courses for farmers originated in the Department of Community Development. Like the agricultural extension system, farmers development courses were based on the strategy of development of the rural areas through progressive farmers. The Department of Agriculture developed its own program which worked alongside the Community Development Department until 1961, when the latter was terminated.

In 1966, the Kericho Conference reviewed the FTC Program and noted that the one week devoted to specific farming problems was more effective than unsystematic instruction provided by conventional extension. The conference outlined many problems which needed to be investigated before the program could play its role effectively. However, the role was not defined in detail.

The Agricultural Education Commission of 1967 reaffirmed the views of the Kericho Conference that the FTCs provided farmers with systematic exposure to new farming ideas. The Commission recommended that for greater impact, agricultural education should be integrated with other fields of rural education, and the FTC Program should be expanded to incorporate an extra-mural

component which would take education to the home areas of the farmers

The Commission recommended staff development through intensive training and providing for a new staff structure; improvement of the learning environment with suitable learning materials; and involvement of government field workers from outside the agricultural extension service and local level community teachers in the management of the FTC.

Beginning in 1964, the Government embarked on a program of expansion for FTCs. In 1970, the scope of the FTC curriculum was expanded to include non-agricultural educational contents. In the 1970-74 Development Plan the Government established two centers at Embu and Matuga to experiment on the integrated curriculum.

Meanwhile, the number of farmer's courses declined although the number of women trainees, non-agricultural courses, and youth development courses increased. During the 1970s, researchers started to experiment with new forms of group extension which incorporated FTC training. Two examples of group extension are briefly described in the chapter, i.e., "The Soya Beans Group Extension Project of the Lowlands of Kisii" and the "Equator Community Education Project."

This chapter has examined the development of the FTC in terms of policy guidelines in the 1960s and 1970s, expansion of teaching and boarding facilities, allocation of operating funds and the numbers of trainees participating in the program. During the two decades, the FTC Program has resisted any major reforms, and yet continues to grow in terms of physical expansion of educational facilities. The next chapter will examine the curriculum issues, focusing on the needs of the learners and objectives of the program as perceived by the trainers and trainees.

FOOTNOTES

¹Prosser, R. C. "The Development of Adult Education in Kenya with Special Reference to African Rural Development 1945-1970," Ph.D. Thesis, University of Edinburgh, 1971.

²Ibid., p. 66.

³Memorandum on the Education of African Communities, British Colonial Office No. 103, 1935, Nairobi: Government Printer, 1949.

⁴Kenya, Welfare Organization, Annual Report, 1949, p. 14.

⁵Prosser, "Development of Adult Education in Kenya," pp. 149-150.

⁶Swynnerton, R. J. M. A Plan to Intensify the Development of African Agriculture in Kenya, Nairobi: Government Printer, 1954.

⁷Ibid.

⁸Mbugua, E. S. "Report after a visit to the D.A.O. Embu," dated 4th April 1960, HQ. CD File MCD 4/6/1/50. This reference has been quoted in Prosser, p. 158.

⁹Sheffield, James R. (ed.). Education, Employment and Rural Development, Nairobi: East African Publishing House, p. 3.

¹⁰Moris, Jon. "Farmer Training as a Strategy of Rural Development" in Sheffield (Ed.) Education, Employment and Rural Development, pp. 322-365.

¹¹Vuyiya, Peter. "A Report on the Evaluation of Farmers Training and Farmers Training Centers," Kenya Ministry of Agriculture and Animal Husbandry, and H. Dusenberry, "Observations on Farm Visits, Mawoka County" (the data on this study was available at the U.S.A.I.D. Office in Kampala at the time of the Kericho Conference).

¹²Diploma in Agriculture is the highest professional qualification in Agriculture below a University degree. The diploma is taken after 4 years or 6 years of secondary education (12-14 years of formal education).

¹³Sheffield. Education, Employment and Rural Development, pp. 358-366.

¹⁴Ibid, p. 8-10.

¹⁵Kenya, Report Submitted by the Agricultural Education Commission, Nairobi: Government Printer, 1967.

¹⁶Ibid.

¹⁷4K clubs are equivalent to the U.S. 4-H clubs. The Kenya clubs (4K) teach practical skills to youth with emphasis on rural life.

¹⁸A Division is an administrative area with a population of about 100,000 in densely populated areas of the country and smaller population in the sparsely populated areas. A Division is administered by a District Officer (DO) and agricultural programs are administered by an Assistant Agricultural Officer usually of T.O. level.

A chief is a government appointed administrator below the rank of DO.

¹⁹Kenya, Developmental Plan 1964 to 1970, Nairobi: Government Printer, 1964, p. 41.

²⁰Kenya, Development Plan 1966-1970, Nairobi: Government Printer, 1966, p. 125.

²¹Kenya, Development Plan for the Period 1970 to 1974, Nairobi: Government Printer, 1970, p. 22 and pp. 531-535.

²²Kenya, Development Plan for the Period 1974-1978, Nairobi: Government Printer, 1974, p. 205.

²³Barwell, E. W. "Farmers Training Centers in Kenya as of 31st December 1964." Mimeo.

²⁴Kenya: Ministry of Agriculture, "Farmer Training Centres Annual Report, 1969." Mimeo.

²⁵Kenya: Ministry of Agriculture, "Farmer Training Centres Annual Report 1971." Mimeo, pp. 3 and 4.

²⁶Ibid.

²⁷Kenya: Ministry of Agriculture, "Farmer Training Centres 1972-1976." Mimeo.

²⁸Ibid.

²⁹Ibid.

³⁰Ibid.

³¹Kenya, The Board of Adult Education Act, 1966, Nairobi: Government Printer, 1966.

³²Kenya, Development Plan for the Period 1974-1978, Nairobi: Government Printer, 1974, p. 485.

³³Board of Adult Education, "Training for Development: Curriculum for District Development Centers," 1975, Mimeo.

³⁴Ibid.

³⁵Coombs and Ahmed. Attacking Rural Poverty, p. 8.

³⁶Prosser. "Development of Adult Education in Kenya," pp. 159-160.

³⁷Kenya, Report of the Mission on Land Consolidation and Registration in Kenya, 1965. Nairobi: Government Printer, 1966.

³⁸Kenyatta, J. Harambee: The Prime Minister of Kenya's Speeches 1963-1964, Nairobi: Oxford University Press, 1964, pp. 60-74.

³⁹Schönherr, S. and Mbugua, E. S. "Proposed Extension Project for Soya Beans in the Lowlands of Kisii," I.D.S. University of Nairobi, 1974, Mimeo; Schönherr, S. and Mbugua, E.S. "Field Experiments to Replicate More Efficient Extension Strategies," I.D.S. University of Nairobi, Mimeo and Schönherr, S. and Mbugua, E.S. "Rapid Experiments to Replicate More Efficient Extension Strategies," I.D.S. University of Nairobi, 1973. Discussion Paper No. 129.

⁴⁰Schönherr and Mbugua, "Proposed Extension Project for Soya Beans," p. 3.

⁴¹Ibid.

⁴²Ibid.

⁴³Ibid.

⁴⁴Tetu is an administrative division in the central Province of Kenya which was selected along with five other areas in different parts of the country for experimental projects on development of strategies of rural development;

⁴⁵Roling, N., Chege, F. and Ascroft, J. "Innovations for Kenya's Small Farms: A Strategy for Equitable Rural Development," I.D.S. University of Nairobi, 1973; Roling, N., Chege, F. and Ascroft, J. "Rapid Development for Kenya's Small Farms," I.D.S. Discussion Paper No. 173. University of Nairobi, 1973; and I.D.S. "An Overall Evaluation of the Special Rural Development Program," I.D.S. Discussion Paper No. 8, 1976.

⁴⁶Leonard, D. K. Rural Administration in Kenya: A Critical Appraisal, East African Literature Bureau, Nairobi, 1973.

⁴⁷Oluoch, A. P., Mulusa, T., Waker, A. O., Mugiro, E. M. and Buderia, G. S. "Learning Needs in Rural Areas: A Case Study of the Vihiga and Hannis Divisions: The Special Rural Development Programme."

⁴⁸Mulusa, T. and Waka, A. O. "Train the Youth for Employment," a paper presented at the Science Education Programme for Africa Seminar held at Monrovia, Liberia, 1978. Mimeo.

⁴⁹Mulusa and Waka. "Equator Project Workplan for Year One," Planning with the People: Workplan for Year One, March 1981-February 1982," 1981, Mimeo, pp.32-37.

CHAPTER VI

FTC TRAINERS AND TRAINEES: PRESENTATION AND ANALYSIS OF THE DATA COLLECTED IN THE FIELD

Introduction

Chapter V suggests that most researchers, policy makers and administrators tended to take a global and somewhat superficial view of the FTC Program right up to the end of the 1970's. Curriculum issues were not defined clearly or studied closely. This chapter focuses on curriculum issues as they are seen by FTC trainers and trainees.

The information required for this chapter was collected using two research instruments. A questionnaire was administered by mail to all FTC trainers, i.e., principals, vice-principals and instructors. Concurrently, four research assistants were used to interview a sample of farmers selected from those who attended courses at four selected FTCs during the survey. If no courses were in session at the selected FTC during the survey, or if the number of trainees who attended courses during the survey fell below 100, research assistants were instructed to trace and interview any farmers who had attended courses at the same FTCs during the year of the survey to top up the number of respondents to 100.

Analysis of the results of the survey is presented under three main sections. The first section describes trainers mainly in terms of their academic qualifications, professional training, and rank within the agricultural extension hierarchy. The second part throws some light on the trainers' perception of the FTC Program, and more specifically on the their notion of the learning needs of the trainees and the objectives of the program. The third section presents what the trainers know about the trainees, and what the trainees themselves say about their background.

Trainers' Background

The Sample. The mail questionnaire administered to FTC trainers realized a return of forty-nine responses. The data presented below includes lists of interesting statements made by the trainers in response to a number of open-ended questions in the research. Very minimal editing has been done in an effort to retain the original sense of the statements.

The questionnaire was expected to secure information from a representative cross section of the trainers in terms of academic qualifications, professional training and job rank. At least one out of every six respondents had

to be a principal or vice-principal. Geographical representation was desirable but not essential.

The forty-nine respondents belong to twelve FTCs distributed regionally as follows: a) two FTCs from the coastal region of Kenya; b) two FTCs from the rainy highlands of central Kenya lying to the east of the Great Rift Valley (GRV) of Eastern Africa, c) three FTCs from the dry farming lands of northern and southern Rift Valley Province and northern and eastern areas of Kenya, d) two FTCs from the highlands west of the Great Rift Valley, and e) three FTCs from the lake basin of western Kenya. The distribution is detailed below in Fig. 6.1 (page 157) and a map of Kenya (page 25).

The twelve FTCs in the sample represent a third of the thirty-six FTCs operating during the survey. As shown in the table on page 157 (Fig. 6.1), six out of the seven rural provinces of the country were represented. The seventh province, North Eastern Province, is predominantly desert and semi-desert, and therefore was excluded from this study on the basis of criteria discussed. All the major farming regions in the country were represented, i.e., western lake basin, the highlands west of the GRV, the highlands east of the GRV, the dry farming and pastoral lands and the coastal belt. The respondents included six principals (12.2%) five

vice-principals (8.5%) and twenty-three instructors (48.9%). Sixteen trainers did not state their positions.

Academic Qualifications, Professional Training and Rank.

The Kenya Ministry of Agriculture classifies professional staff into four hierarchical grades: Junior Agricultural Assistants (JAA), Technical Assistants (TA), Technical Officers (TO) and Agricultural Officers (AO). The trainers who responded to this study indicated their ranks as follows: twenty-one (42.9%) TAs, fifteen (30.6%) TOs and one AO. Twelve trainers did not state their ranks.

The educational background of the trainers was reported as follows: thirty-three (67.3%) had a four year secondary education, or a minimum of twelve years of schooling. Nine trainers (18.4%) had two years of higher education, i.e., a minimum of fourteen years of schooling. Seven trainers did not specify their academic qualifications.

In terms of professional training, fourteen trainers (28.6%) had been initially trained as JAAs, twenty-five (51.0%) had trained as TAs, and seven (14.3%) as TOs. Three trainers not accounted for did not respond to the question on professional training.

Fig. 6.1. Regional Distribution of the FTCs in the Study Sample.

Name of FTC	Province	Number of Responses	Farming Region
Taita	Coast	4	Coastal Region
Mtwapa	Coast	3	Coastal Region
Wambugu	Central	6	Central Highlands
Kamweti	Central	4	Central Highlands
Kitui	Eastern	4	Dry Farming Lands
Baringo	Rift Valley	4	Dry Farming Lands
Narok	Rift Valley	2	Dry Farming Lands
Kaimosi	Rift Valley	4	Highlands West of GRV
Kabianaga	Rift Valley	4	Highlands West of GRV
Bungoma	Western	5	Western Lake Basin
Busia	Western	5	Western Lake Basin
Maseno	Nyanza	2	Western Lake Basin

The findings in this study agree with the FTC annual reports and other literature on farmer training, suggesting that the academic and professional qualifications of FTC trainers tend to be relatively low. Due to failure by respondents to answer all questions in the research instruments, it is difficult to correlate the data on professional qualifications and current job ranks. It is also evident that the incongruity between professional qualifications and current job ranks are due to general upward staff mobility. The number of TOs, for example, rose from seven at the time of entry into the service to fifteen at the time of the survey. During the same period the number of JAAs must have declined considerably. The data on current ranks does not account for the fourteen trainers who entered the service as JAAs. Some of them must be among the eleven trainers who did not specify their present ranks, and the rest must have been upgraded to higher ranks.

However, the upward movement and adjustments to the ranks of individual trainers did not appear to make much difference to the academic and professional profile of the trainers in the sample. The AO cadre remained at the low level of 2.0% of the total, while the TO and TA cadres formed 30.6% and 49.9% respectively. Thus, assuming that the eleven trainers whose ranks were not

specified were mainly JAAs, the lower categories of trainers, i.e., TAs and JAAs must have constituted about 67.3% of the sample.

As indicated in Chapters I and V, the literature on FTCs has tended to attribute the poor performance of FTCs to the low academic and professional qualifications of the trainers. Studies of conventional extension have tended to reinforce the thinking that there is a correlation between the academic credentials of an agricultural change agent and the rate of agricultural development of his clients. The frontline extension agents who, in Kenya, are JAAs and TAs, have been depicted as ignorant and unskilled. Some studies have suggested that the most progressive farmers tend to be more knowledgeable in agriculture than some of the frontline extension workers. The studies do cite cases where frontline extension workers appeared to teach outdated farming methods while some of the farmers already had had information on more modern methods of farming.

Obviously frontline agricultural change agents of the TA and JAA professional level have not had as much training in agricultural science as TOs and AOs. But in the context of an FTC, it is widely believed that the effectiveness of a trainer would depend on the trainer's ability to disseminate information and technology, and

not necessarily on the breadth and depth of scientific contents the trainer has mastered. Nevertheless, studies which have tended to discredit the performance of TAs and JAAs as change agents have not convincingly demonstrated that trainers with higher academic and professional qualifications are more competent facilitators of agricultural change.

University trained agricultural scientists have received a minimum of two years training above the TO level, and four years above the TA level. The writer has examined the syllabus of the Faculty of Agriculture at the University of Nairobi with a view to identifying any units of the syllabus which would make the graduates of the program competent educators and extension technologists (see Appendix VI). On the contrary, the university agricultural courses seem to give intensive training in agricultural science and related fields such as chemistry, botany, genetics and even mathematics and statistics. The first year of university training is confined to science subjects. During the second year, one of the nine courses offered is "Rural Sociology and Development." However, the emphasis of this course is on government policies on land use. In the third and final year a course is offered on agricultural marketing and extension which is the only element in the program which comes close to teaching. The head

of the Department of Agricultural Economics which offers this course admitted to the writer that the extension element was taught by a part-time lecturer from the Faculty of Arts and was not considered a major course.

Advocates of more university trained educators for the FTC Program have not pin-pointed any special curriculum ingredients that would account for vast differences between the performance of university trained and non-university FTC trainers. Another way of looking at the same problem is to inspect the training program for TAs and TOs to determine the essential elements of teaching and extension theory and methods which are not incorporated. A third and more difficult line of investigation is to prove that FTCs which have had university trained principals, in the past, have performed significantly better than FTCs with non-university principals, and that the differences can be attributed to the academic qualifications of the principals.

University agricultural scientists seem to be trained for leadership roles especially at research stations and for senior administrative positions within the agricultural extension system. In contrast, Technical Officers and Technical Assistants seem to be specifically trained for field work either as support staff at research stations or as frontline facilitators in the extension

system. Accordingly training programs for TOs and TAs tend to place greater emphasis on teaching and extension. Indeed Egerton Agricultural College, which trains TOs, has a large department of education and extension which offers twenty-one different course units of about thirty hours each and a teaching practice session of 120 hours duration (see Appendix VII). The course offerings cover language and communication, report writing, history of education, philosophy of education, curriculum development and evaluation, psychology and teaching methods among others.

Similarly, Bukura Agricultural Institute, one of the two institutions responsible for training TAs, has a department of management and extension which offers courses in extension, education, rural development, rural sociology, communication and extension, research methods, planning and evaluation and the structure of the extension service (see Appendix VIII).

The intention to give the theory and practice of teaching and rural extension to TOs and TAs is strong, judging by the number of teachers and teaching trainers assigned to the Education and Extension Department of Egerton Agricultural College and the Farm Management and Extension Department of Bukura Agricultural Institute. The actual training done seems to have some weaknesses.

The Egerton Agricultural College course, for example, seems to be skewed towards teaching in formal school situations. The program has strong emphasis on history of education in Kenya, child psychology, secondary school organization and management, educational technology, methods of teaching science and teaching practice. In spite of all these weaknesses, the training of TOs and TAs still has a more solid component of farmer training and extension than the undergraduate course in agriculture at the University of Nairobi.

This study is not opposed to the use of university graduates at FTCs or any other frontline positions in educational programs and extension services. The evidence available, however, suggests that after two decades of calling for university graduates to strengthen the FTC Program, the number of graduates in the field has not gone beyond 2.0% of the FTC staff. A more viable approach to improve the FTC Program would have been to investigate the prospects of improving the present staff and incoming trainers of equivalent academic and professional qualifications.

Within the formal school system in Kenya, for example, the frontline teachers in the primary schools invariably have lower academic qualifications compared to educational administrators and teachers in secondary

schools and higher levels of education. Some primary school teachers did not themselves go beyond the primary school cycle. But with sufficient professional training, these teachers are able to sustain the primary education program in spite of their low academic attainment. Whenever the Ministry of Education has felt that primary education had pedagogical weaknesses, the existing teacher education programs have been inspected and reformed or new ones mounted to step up the performance of both existing and incoming teachers.

The proposition that FTC principals, and if possible vice-principals, should be university graduates seems to evade the main causes of cancellation of courses, under-enrollment and general decline in the FTC Program. Furthermore the proposition is unrealistic. During the past two decades the country has not been able to increase the numbers of graduates in the program significantly, and it may be that if the program received university graduates, the cost of training would be so high that the government would find it a burden to continue the program.

On-the-job training for FTC trainers. Nearly half the trainers, twenty-three (46.9%), reported that they had short re-training and inservice training courses. Their

areas of additional training are listed in Fig. 6.2 (page 166). Indications of the number of trainers who participated in each course are also offered.

The most striking feature of this list is that no course was attended by more than six people. The range and variety of the courses and lack of focus of FTC training suggests that the courses were not provided within the FTC Program. Individual trainers seem to have been invited to specific seminars possibly organized by the Ministry of Agriculture for a cross-section of the whole agricultural extension. The courses show no evidence to suggest that all FTC trainers have done any special training in the art and science of teaching, either before or since joining the FTC Program.

The principals' conference referred to in Chapter V does not provide learning opportunities for vice-principals and other FTC trainers. In any case the conferences tend to focus on administrative problems, with the exception of 1973 Mombasa workshop which primarily concerned the curriculum content, teaching methods, audio-visual aids, the use of media in farmers' courses and other curriculum issues.

Out of an aggregate of forty-one course units attended by trainers in the sample, only five units were concerned with teaching and approaches to adult

Fig. 6.2. Areas of Additional Training for Trainers.

Course Title	No. of Participants
Animal Husbandry	6
Farm Mechanization	6
Teaching and Adult Educational Approaches	5
Farm Management and Soil Conservation	4
Land Survey	2
Bee Keeping	2
Photography	2
Induction Course (Orientation on the Job)	2
General Agriculture	2
Agricultural Engineering	1
Secretarial Course	1
Ox Cultivation	1
Audio Visual Aids	1
Range Management	1
Home Economics	1
Plant Production and Protection	1
Animal Husbandry and Management	1
Operating and Maintenance of Projectors	1
Management Manual (Guide Book for Extension Workers)	1

education. One unit on audio-visual aids was also concerned with the process of facilitating learning. The rest of the units were on different aspects of agriculture, except the courses in photography, secretarial work and operating and maintenance of a projector.

The proportion of teaching and extension courses to the rest of the courses for trainers is about one to six (1:6). This low profile of courses on teaching suggests that either the trainers are so well prepared for teaching roles during their initial training that additional on-the-job training is considered superfluous or the art and science of teaching is not considered a pre-requisite for FTC teaching.

In the review of educational philosophies, it was noted that some educational schools of thought tend to be content-oriented. It is possible that the FTC Program is one of the programs based on the notion that the main qualifications for teaching should be mastery of the content to be taught. Many educators, including most university professors, hold this view and attempt to defend it. However, the evidence on hand suggests that the FTC Program has not benefited significantly from exclusive reliance on training in agricultural science.

Past employment. None of the trainers interviewed had

worked outside the agricultural extension system. Eight trainers (16.3%) had not worked outside the FTC Program. The rest had worked in other sectors of agricultural extension as follows: twenty-one (42.9%) at agricultural research stations, ten (20.4%) in field administration of the conventional extension service and eight (16.3%) at the frontline of the extension service.

When asked to show their preference for future employment, only two trainers (4.1%) indicated that they would continue to work at the FTC. Slightly more than half, twenty-five (51.0%), preferred to work at agricultural research stations. Sixteen (32.7%) preferred to work at the frontline of the extension service, and six (12.2%) preferred to work in the field administration coordinating extension activities.

The reasons given for apparent lack of interest in FTC work are indicated in Fig. 6.3 (page 169). The figures against each reason indicates the number of times the reason was stated.

The data is biased in the sense that only the trainers who are in the system were interviewed. There is no indication of the number of trainers who leave the FTC Program or agricultural services altogether. The eight trainers who had not worked outside the FTC Program must have been new in the service. As seen in Chapter V,

Fig. 6.3. Reasons Given by FTC Trainers for Wishing to Leave FTC Teaching.

To go for further studies	4
To have a change	4
To work directly with farmers	3
There is too much work at the FTC	2
To work at a research station	2
We are overloaded with extra duties such as acting as caterers	2
There are more working hours at the FTC	1
To get some field experience	1
Due to too many administrative problems	1
The job does not utilize all my potential	1

the FTC Program staff is unstable. This instability may be well illustrated by the fact that only two of the trainers interviewed wished to continue working within the program. There must be reasons why these two did not want to move, such as problems of personal health or family commitments or the enjoyment of special advantages such as working from their houses.

The reasons given by the trainers themselves for wishing to move out of the FTC Program can be regrouped into the following four main points: 1) to go for further studies; 2) to avoid hard work, long working hours and extra duties associated with the residential aspects of the FTC Program; and 3) to get a change and to work more directly with farmers using all one's capabilities.

Earlier studies of the FTC Program and the annual reports suggest that working at a FTC removed a trainer from the mainstream of agricultural extension, and away from the eyes of the District Agricultural Officer who determines whether or not a field worker should be recommended to the Ministry of Agriculture for promotion to higher ranks and salaries. In this respect teaching at the FTC is seen as a punishment. Indeed the literature on the earlier stages of the development of the FTC Program suggests that there were cases where officers who

could not perform field extension work effectively without supervision were transferred to the FTCs to work under the close supervision of FTC principals.

As noted in Chapter V, FTC staff are in the same job ranks as those in field extension service. There are no special allowances for extra duties associated with a residential institution such as: 1) working outside normal civil service hours; 2) taking on special responsibilities for the welfare of the trainees such as medical care, food preparation, games and entertainment; and 3) frequent demands on the trainers' private time due to changes in the program or the need to give special attention to individuals or small groups of trainees.

There is, therefore, little job satisfaction in the FTC Program, as suggested by Jon Moris and the Agricultural Education Commission. Apart from the heavy duties, long working hours and extra-curricular activity, there is little motivation to work hard. There is hardly any way of showing personal merit and contribution to the total effort. If trainees adopt new methods of farming, no single trainer can claim credit for the success. But if an FTC performs badly, even in areas where individual trainers have limited influence such as recruitment, the whole staff is held responsible, or at least suffers the embarrassment of failure.

The FTC seems to offer no prospects for personal growth and career development. The Agricultural Education Commission proposed a career structure within the FTC Program providing for four job categories: principal, vice-principal, lecturer and instructor. A trainer who recruited to the program at the level of instructor, which would be equivalent to TA or TO in the field, would hope to get promotion to lecturer status and above. Several times the principal's conferences have revived the issue, but no action has been taken on it for the past fifteen years.

During the 1960's the government treasury did not usually provide sufficient funds to run FTC programs throughout the year. Those which ran large and frequent courses at the beginning of the financial year normally exhausted their funds before the year ended, and they had either to reduce their activities or close down for a number of months while waiting for fresh allocation of funds. In the early 1970's, the allocation of funds to FTCs was increased substantially, but not all the problems of financial management were sorted out. FTCs were still required to remit all the funds raised from courses and the FTC demonstration farm to the Treasury. This meant that funds allocated to farmer courses were used to provide non-farmer courses, and the funds paid by the

latter were surrendered to the Government. Thus for every non-farmer trainee accommodated, the FTC lost one space for a farmer. Yet there was no way FTC could close their doors to most of the courses which were sponsored by government ministries.

Because the demonstration farm did not benefit the FTC directly, trainers found it a burden to spend their time on it. The researcher observed that there was a tendency to sell the produce cheaply to members of staff and other government servants in the district, since any profits made would not benefit the FTC. As a result the farm as a source of revenue has tended to operate at a loss.

Only Wambugu FTC is allowed to keep the proceeds from both courses and the farm. Wambugu FTC enjoys a special semi-autonomous relationship with the Ministry of Agriculture based on an agreement between the Government and the family of ex-chief Wambugu who donated the land on which the FTC was built.

It is interesting that the Wambugu model has not been tried elsewhere on Government land. All it entails is greater local control of the program--more involvement of local people and other government ministries in the management and control over locally generated revenues. As noted in Chapter V the Agricultural Education Commission

proposed a similar model in 1967. But in 1973, the Principals' Conference recommended management by officials of the Ministry of Agriculture, providing for no participation from outside the Ministry.

The FTC Curriculum

Learning needs. Thirty-three trainers (67.3%) indicated that their FTC had identified the critical learning needs of their clients as a basis for development of relevant training programs. Ten trainers (20.4%) reported that their FTCs had not carried out assessment of the learning needs of their clients. When asked whether a list of the critical learning needs identified existed at the FTC, twenty-seven trainers (57.7%) said it existed while eighteen (36.7%) said it did not exist. The respondents who reported that the list existed were then asked to note the three most important needs from the list. The responses are listed in Fig. 6.4 (page 178).

It is not easy to deduce from trainers' statements whether or not some FTCs have spelled out the learning needs of their clients. However, the main objective of this study is to explore the trainers' vision of the small scale farmers' knowledge deficiencies. From this point of view, the trainers' list of critical learning needs is an excellent window through

which to perceive strengths and weaknesses in the assumptions made about trainees. The trainers' statements fall into a number of categories as analyzed below:

1. A number of statements represent what Dave and Evans have referred to as "universal needs." These are broad aims representing the aspirations of a wide area such as the country or a wider region. The broad objectives are not inaccurate, but they are not precise enough to focus a program to the specific needs of a group. An example of a universal need is "to use modern methods of farming."
2. Some of the statements on the teaching/learning process like using visual aids, conducting evaluation after teaching and using practical demonstration represent the learning needs of the trainer, and not the trainee. These are the competencies the trainer must have in order to be effective.
3. At least two statements represent policy issues which the trainer cannot manipulate through curriculum development and implementation. The government can decide whether or not an FTC should be used for supplying improved livestock or processing loans to farmers. The supply of

farming inputs by FTCs does not represent a knowledge gap among farmers or trainees.

4. During the survey the government had a five-year literacy campaign in progress. FTCs might have provided space for adult education officers to train their literacy teachers. But literacy per se cannot be an objective of the FTC Program. The FTC does not have the resources and the flexibility to tackle the problem of illiteracy, which involves teaching over five million people in Kenya in five years (1978-1983).
5. Many of the statements which seem to echo the learning needs of small scale farmers are expressed in broad and vague terms, e.g, farm management and marketing of farm produce. These broad areas could be broken down to more specific knowledge gaps. Among the specific learning needs listed, the use of artificial fertilizer and chemicals, crop spacing and the role of cooperatives have been identified as critical needs for The Equator Project target communities.

The list of critical learning needs suggests that the FTC has not spelled out the problem which the program is intended to address. If the problems are not clearly

defined, it is difficult to develop program objectives which have a sharp point of focus.

Curriculum objectives. The trainers were asked to evaluate their FTC's Program in terms of clarity and suitability of the objectives. Seventeen trainers (34.7%) rated the objectives of their program as "very clear," and twenty-seven (51.1%) as "clear." Only three trainers (6.1%) suggested that the objectives of their FTC program were not clear. Two trainers said they did not know.

On the question of suitability of the program to the learning needs of small scale farmers, fifteen trainers (30.6%) rated the program as "very suitable" and thirty-one trainers (63.3%) as "suitable." Only one trainer stated that the program was unsuitable, and two indicated that they did not know.

The trainers were then asked to list the three most important objectives of their respective FTCs. The response categories are presented in Fig. 6.5 (page 179), with the frequency indicated for each response category. The trainers' views on the objectives of the FTC curriculum seem to contradict most of the literature on the FTC Program. As already detailed in Chapter V, the Ministry of Agriculture policy statement on FTCs in 1964 expressed doubt on the wisdom of investing heavy resources in FTCs.

Fig. 6.4. Small Scale Farmers' Critical Learning Needs as Perceived by FTC Trainers.

Definition	Frequency
Practical work on livestock husbandry	14
Practical work on crop husbandry	12
Soil and water conservation	8
To use modern methods of farming	7
Use of chemicals	6
Use of artificial fertilizers	6
Disease control	6
Farm management	5
Educational tours	5
Literacy	4
Visual aids	4
Storage techniques	4
Nutrition	4
Understanding and application of what is taught	3
Pest control	3
Marketing of farm produce	2
Importance of spacing crops	2
Personal hygiene	2
Poultry keeping	2
Vegetable production	2
The role of cooperatives	2
How to raise capital for farming	2
Conducting evaluation after teaching	1

Fig. 6.5. Objectives of the FTC Program as Stated by FTC Trainers.

<u>Objectives</u>	<u>Frequency</u>
To train farmers in up-to-date information	23
To raise the standards of living by increasing individual incomes	15
To teach crop and animal management techniques	15
To demonstrate different methods and approaches of farming	8
To reach and teach as many farmers as possible	5
To teach the importance of soil conservation	4
To teach home economics	4
To distribute seeds and seedlings to farmers	3
To teach farmers to cooperate	3
To improve the standards of the farming community	3
To teach farmers how to run their farms properly	2
To conduct refresher courses for TAs	2
To raise the farmers' ability in farming	2
To educate the farmers in groups	1
To use audio-visual aids at FTC and in field teaching	1
To teach farmers how to store their produce	1
To conduct inservice courses	1
To eliminate illiteracy	1
To do evaluation after teaching	1
To make follow-up to the trainees' farms	1
To organize public lectures for different audiences	1
To improve the nutrition habits of the trainees	1
To develop the FTC farm into a model for the local community to learn from	1
To teach even non-government organizations	1
To organize early recruitment of farmers to courses	1

In 1965, Moris told the Kericho Conference, "There are no professionals on deck who could implement programs in agricultural education. What has been lacking is the concept itself." The Agricultural Education Commission agreed entirely with Moris in 1967 and went further to suggest more training and an attractive career and salary structure for FTCs to attract professionals who would re-interpret and put more life into the FTC Program. Annual reports on FTCs during the past decade have tended to agree with both Moris and the Agricultural Education Commission that the objectives of the FTC Program are far from clear. The strongest proof that the search for FTC curriculum objectives continues is the current District Development Center experimental project on education for integrated rural development.

Officials at the Ministry of Agriculture whom the researcher contacted indicated that they were still exploring ways of educating farmers. The curriculum objectives had not been finally decided. How, then, can it be explained that the trainers viewed the objectives of the FTC Program as clear, and the content relevant to the learners needs?

It seems reasonable to assume that most TA or TO instructors have not seriously questioned the objectives of the FTC. As agricultural technicians, they see

themselves as transmitters of information from the agricultural system to the farmers. The message to be transmitted is automatically determined by the knowledge gap between the agricultural technicians and the target community. Thus, so long as the trainer feels that the knowledge gap still persists, there is a message to transmit. Hence the trainers' confidence that the objectives are clear and the program is relevant.

Like the learning needs presented earlier, the FTC objectives listed by the trainers fall into at least five categories as detailed below:

1. The list contains statements on (a) raising standards of living; (b) improving standards of farming and (c) raising the ability of farmers. These embrace the FTC Program, but are not precise enough to guide a trainer who should be responding to very specific needs in the area served by his FTC.
2. A number of statements on teaching techniques reflect the learning needs of the trainers. The most obvious examples of these statements are (a) the use of audio-visual aids and (b) conducting evaluation and follow-up exercises after a course.

3. The list includes courses which are not part of the program for farmers such as (a) to eliminate illiteracy, (b) to conduct refresher courses for TAs, (c) to teach non-government organizations and (d) to organize public lectures.
4. At least two statements on distribution of seed and seedlings and recruitment of trainees in time for courses are policy issues over which the trainer, and even the FTC, may have no control.
5. Most of the statements which seem to express realistic objectives for the FTC Program still need to be restated precisely. The statement on nutrition could, for example, be broken down to production of high protein food, growing of fruits and vegetables etc.

The FTC curriculum seems to have elastic and unstated objectives. The policy statement of 1964 only declared that the FTC was part of the normal extension of the Ministry of Agriculture. More recent discussions of curriculum by FTC principals have tended to focus on content areas, teaching methods and audio-visual teaching aids. Apparently it has been assumed that the trainers already know what the program objectives should be, or are capable of formulating their own objectives. Hence

the elasticity of the objectives listed above. The notion of elasticity of objectives is illustrated by an additional example which follows.

Effectiveness of the FTC Program. The trainers were asked to assess the effectiveness of the FTC Program in terms of (a) ability to reach farmers, (b) relevance to the needs of the learners, (c) fulfillment of individual needs and (d) involving learners in program development. The responses are summarized in Fig. 6.6 (page 184).

The responses demonstrated a high degree of confidence. An average of less than 4% either failed to respond or said they did not know. A majority of the trainers ranked the program as "very effective" or "effective." These responses would surprise any one who has been following the development of the FTC Program. Annual reports suggest that FTC trainers are unable to assess the effectiveness due to heavy teaching responsibilities and lack of transport. Even if the FTCs provided transport and time for field work, it is questionable how many farmers a team of six would reach in a district of a population with half a million and above.

Some indicators of lack of effectiveness, such as cancellation of courses, under-enrollment and general under-utilization of FTC facilities, should have been

Fig. 6.6. Effectiveness of FTC Program as Stated by FTC Trainers

	Very Effective	Effective	Not Effective	Don't Know	No Response
Ability to reach farmers	11	31	5	1	1
Relevance to learners needs	19	22	6	1	1
Fulfilling indi- vidual learning needs	10	23	11	3	2
Involving learners in program development	11	25	10	1	2

very clear to the trainers. Why should farmers fail to turn up for courses if the FTCs were able to reach them, the program was shown to be relevant and the trainees were in fact involved in program development?

It seems that the concept of "effective" was interpreted in a very elastic manner. While the researcher had thought of effectiveness in terms of meeting the needs of the whole district, it seems that most trainers were primarily concerned with the few farmers who came to courses. Even then, the under-utilization of most FTCs in the country should have elicited a more cautious response. For these reasons, the researcher feels that the views of the trainers are exaggerated with respect to the issue of effectiveness.

Trainers

Trainers knowledge of trainees. The trainers were asked to base their responses about trainees on the class currently in residence during the survey. Thirty-four trainers (69.4%) reported that the class in residence was typical of the range of FTC farmers' classes. Seven trainers (14.3%) said that the class in residence was atypical. The trainers were then asked to state or estimate what portion of the trainees fell into the following categories: farm owners, spouses, (i.e., wife or husband of

farm owner), other relatives of the owner, employee, and/or caretaker (a person who looks after a farm in the absence of the owner). Their responses are presented in Fig. 6.7 (page 187).

The most significant feature of Fig. 6.7 is how little the FTC trainers actually knew about their trainees. The number of trainers who do not give a response is so large that the validity of the positive responses is questionable.

The trainers were then asked how well they knew the trainees' home areas, educational background, family connections, previous FTC training experiences and farming practices. Their responses are presented in Fig. 6.8 (page 188).

Several conclusions can be derived from these figures. Through their responses, a large number of trainers admit that they do not have sufficient knowledge of their trainees. The trainers tend to know less about issues which would bother a trainee most, such as family concerns. Trainers responses on knowledge of participants previous FTC training and farming practices are surprisingly low. Earlier statements from the trainers gave the impression that the trainers thought that the FTC program was very effective in (a) reaching the farmer, (b) assessing the needs of the farmers, (c) fulfilling the needs of

Fig. 6.7. Categories of FTC Trainees as Stated by FTC Trainers.

	Up to 25%	26-50%	51-75%	76%+	Don't Know	No Response
Owners	3	9	9	12	-	16
Spouses	22	4	1	-	-	22
Other Relatives	13	5	-	-	-	31
Care Taker	12	2	-	-	-	35
Employee	12	-	-	-	-	37

Fig. 6.8. FTC Trainers Knowledge of FTC Trainees' Background.

	Very Well	Well	Fair	Not at All	No Response
Home Area	3	10	16	9	11
Educational Background	4	13	17	7	8
Family	1	2	4	33	9
Previous FTC Training	5	12	15	10	6
Farming Practices	7	11	15	9	7

individual farmers and (d) involving the trainees in program development. One should be able to logically conclude from the study that either the information on the effectiveness of the FTC Program is inaccurate or the information on FTC trainers' preconceived knowledge of the trainee is wrong.

Here the problem seems to be, once again, the issue of knowledge and information about the farmer. The researcher expected the trainers to be knowledgeable about specific individuals, whereas the trainers seem to have been thinking about a stereotype trainee, whose needs and competence are already known. As already stated in Chapter V, the extension system assumes that there is nothing the farmer knows which is not already known by extension agents.

Finally, the trainers were asked to state or estimate the educational level of their current trainees, and their responses are recorded in Fig. 6.9 (page 190). As in the case of the two previous tables, Fig. 6.9 shows little trainer knowledge of the trainees' backgrounds. All the three tables contrast sharply with Fig. 6.6 on the effectiveness of the FTC Program. Effectiveness of the program can only be measured accurately if the trainer has a good knowledge of who the learner is, his or her previous education and training and the trainees' present

Fig. 6.9. FTC Trainers' Assessment of Current Trainees' Educational Background.

	Up to 25%	26-50%	51-75%	76%+	Don't Know	No Response
Illiterate	16	11	6	-	-	16
1-4 Years Education	9	14	8	-	-	18
5-7 Years Education	16	10	4	-	-	19
Over 7 Years Education	24	5	-	-	-	20

farming practices. In the case of a farmer, the trainer should have a good knowledge of where the farm is and what the trainee produces, what family constraints or resources the farmer has and the level of schooling and previous training to which the farmer has been exposed. If this is not the case, the profile of the trainees risk being inaccurately presented. For example, conventional literature tends to underestimate the educational background of the trainees, giving the impression that the majority are illiterate, and with very few having full primary or some secondary education. The profile given in Fig. 6.11 (page 192), which is derived from trainees responses to a structured interview, shows roughly equal numbers under the four following categories: illiterate, lower primary education, upper primary education and secondary education. Additional data is presented in the following figures to support the conclusions made above.

Trainees background. In Chapter II it was stated that a sample of 254 farmers representing the major farming regions in the country was interviewed. The sample consisted of 175 men (68.9%) and seventy-six women (29.9%). The breakdown of trainees' ages is shown on Fig. 6.11 (page 193).

Fig. 6.10. Categories of the Trainees Vis a Vis Land Ownership According to FTC Trainee Responses.

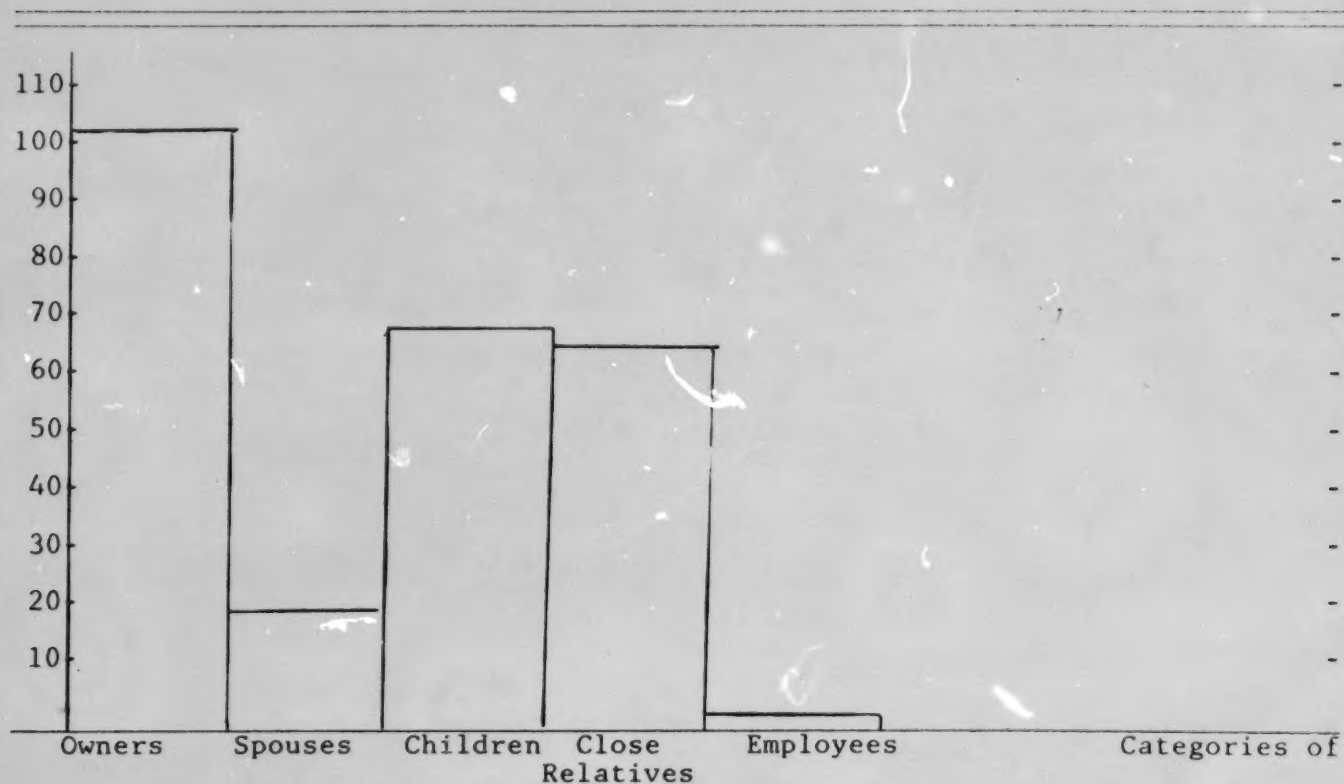


Fig. 6.11. The Age of FTC Trainees as Stated by FTC Trainees.

Age Category	Number of Trainees	Percentage
Under 15 Years	1	0.4
15-24 Years	27	10.6
25-34 Years	74	29.1
35-44 Years	64	25.2
Over 45 Years	77	30.2
No Response	11	4.3

Fig. 6.12. The Size of the Trainees' Farms as Stated by FTC Trainees.

Acreage	Frequency	Percentage
Up to 2 Acres	37	14.6
3-15 Acres	133	52.4
16-50 Acres	28	11.0
Over 50 Acres	37	14.6
Don't Know	11	4.3
No Response	8	3.2

Out of the 254 trainees interviewed, 225 (86.6%) were married, and 117 (49.4%) had families of five children or more, sixty-five (25.6%) had two up to five children, and twenty-seven (10.6%) had up to two children. The rest either had no children or did not give a response.

The number of registered land owners among the trainees interviewed was 102 (40.2%). Other major categories included eighteen (4.7%) spouses, sixty-five (25.6%) children of the owners and sixty-two (24.4%) other close relatives. There were only two salaried employees. The acreage of the farms on which the trainees worked or which they owned is reported in Fig. 6.12 (page 194). Thirty-seven trainees (14.6%) reported less than two acres per unit; 133 or (52.4%) three to fifteen acres; twenty-eight trainees (11.0%) sixteen to fifty acres and thirty-seven (14.6%) over fifty acres.

The trainees reported their education as follows: sixty-one (24.0%) had up to four years of primary education, fifty-two (20.5%) had five to seven years primary education, thirty-two (13.0%) had a full primary education, twenty-five (9.8%) had two years of secondary education or a total of nine years education, and twenty-three (9.1%) had over nine years of education. In Fig. 6.13 (page 196) those trainees with five to seven years

Fig. 6.13. Trainees Academic Qualifications According to FTC Trainees Response.



have been grouped with those who had full primary education. All the trainees with secondary education are grouped together.

More than half the trainees interviewed said that they were proficient in Kiswahili, one of the two national languages of Kenya. Another group of sixty-three trainees said that they had a working knowledge of the two national languages, Kiswahili and English. Twelve trainees said they had a working knowledge of English and no Kiswahili. Only thirty-five trainees (13.8%) said they did not have a working knowledge of either of the two national languages. When asked which languages should be used in courses at the FTC, 132 trainees said Kiswahili. Only twenty-two trainees suggested English.

The survey showed that 135 of the trainees interviewed (53.1%) had previously attended FTC courses while 106 trainees were attending for the first time. The trainees reported that they received most of their information about farming as follows: 177 (69.7%) from field extension agents, thirty-six from local FTCs and eleven from the Government field administration.

The data examined in the earlier sections of this chapter suggests that FTC trainers did not have essential information about their trainees. High percentages of

trainers either admitted that they did not have specific details about the trainees or failed to answer the questions asked of them. This section tries to indicate the scope of information which an FTC trainer should know about his trainees.

The age structure of the sample of 175 men and seventy-six women interviewed shows that only one trainee was below fifteen years old, the statutory lower limit for an adult according to the Kenya Board of Adult Education definition. A majority of the trainees, 138, were within the active working age between twenty-five and forty-four years. This also happens to be the age of having children and raising a family. Of the 225 trainees who were married, 117 had large families with five children and more, sixty-five had families of two to five children and twenty-seven had one child. The family structure, and more particularly the number of children per family, may explain in part, why the number of women participants is so low.

Some of the literature reviewed in Chapter V suggested that FTCs were not well equipped for women with babies. However, the provision of baby cots alone would not increase the number of women trainees in the courses for small scale farmers. A mother with a young baby may have one or two more children under the age of four that

need close care, which would make it difficult for her to attend long residential courses. Some communities do not allow women to mix freely with men, whether they have babies or not. This applies mainly to the Moslem communities in the coast region of Kenya. The large numbers of women trainees given in FTC annual reports are usually inflated, due to the special women's courses organized by family planning organizations and other community development agencies. The level of 30% for women shown by this sample is considered average for farmers' courses.

The literature on FTC has in the past given the impression that the number of decision makers attending FTC courses is low. This means that those who are trained do not have the power to implement the new innovations learned at the FTC. In this study it was assumed that the people who legally own the farm are the ones who make the decisions on what should be done on the farm.

In the field study, 102 trainees (40.2%) indicated that they were registered farm owners, and another eighteen (4.7%) said they were spouses of farm owners. The rest of the trainees included sixty-five trainees (24.4%) who said they were children of the registered farm owners and 62 (24.4%) who said they were close relatives of farm owners. Only two trainees (0.8%) reported that they were salaried employees. The

trainers' estimates of the different categories are difficult to compare with the data from the trainees themselves. For example, three trainers said farm owners were below 25%, nine put it at 26-50%, eight said 51-75% and twelve said 76% and above, suggesting that the trainers responses were either guesses based on no specific criteria or the trainers were not using the same criteria in their estimates.

The trainees' responses show that most of them are either decision makers on their farms or are in a strong position to influence farming decisions. In many communities in Kenya a wife does not need permission to use part of the family farm for special experiments. The same applies to a lesser extent to other close relatives. Only employees would not have authority to start new enterprises on their employers' farms. But in the sample interviewed, this latter category of trainees was less than 1%.

Several references have been made to the concept of small scale farmer without defining it. There is no standard definition of a small scale farm in Kenya. The concept is used to describe various levels of low income farmers. The main criterion for classification in this study is the size of the farm. The sample indicates that a majority of the farmers, 170 (67%) owned fifteen acres

of land or less. Most of the sixty-five farmers owning more than fifteen acres may be from the drier areas of the country where fifty acres is just about the equivalent of fifteen acres in the high potential agricultural areas. However, this conclusion is speculative and does not make a significant difference to the distribution of the farmers in respect to land ownership.

The fifteen acre criterion is satisfactory only for farmers who attend FTC courses. There are fifteen acre capital intensive farms in Kenya, and elsewhere in the world, which cannot be described as small scale. A fifteen acre poultry farm, for example, would be a large enterprise depending on the capital investment and management. The small scale farm envisioned in this study is not highly mechanized, nor does it have a high capital input or turnover. It is a subsistence farm which may or may not have a cash crop or surplus produce for sale. As indicated in the study, only 36.2% of the trainees were able to raise working capital, 29.3% from cooperative societies, and only 3% were able to raise a bank loan.

The findings of this study challenge many of the most widely held beliefs that FTC trainees are predominantly illiterate and unschooled. The emphasis on the use of visual aids and practical work stem from the assumptions that most of the trainees are illiterate.

The District Development Center Program was initiated to give a broad education to the farmer whenever he came forward for a farming course. The assumption was that the farmer had missed basic education in hygiene, civic affairs, simple numeracy, etc. during his youth.

The evidence we have is that only 24.0% of the trainees interviewed either missed school or had up to four years of schooling. It was assumed that up to four years of schooling does not make one functionally literate. No attempt was made to find out whether the trainees classified here as functionally illiterate could read and write or not. There was overwhelming evidence to show that 33.5% of the trainees had between five and eight years of education, and 18.9% had received secondary education.

Thus 69.6% of the trainees who specified their formal education were literate and must have had a basic education covering numeracy, health education, home economics, civic affairs and farming. Certainly this is not the kind of trainee for whom the DDC was intended. To give such a trainee lessons in reading and writing, simple arithmetic and other basic skills and concepts would not only be a waste of time but a disservice to the FTC Program. The trainees would not only feel offended

but they would lose confidence in the program and discourage other potential trainees from attending.

A majority of the FTC trainees are under thirty years old. At the time these people reached school age in the 1960's, Kenya already had very many primary schools. During that time 60% of children of school age had access to formal education. The proportion of children going to school has continued to grow rapidly, and in the next few years the country should reach a stage when the rate of illiteracy among the thirty-year-olds will be less than 5%. The writer believes that the level of illiteracy among FTC trainees has tended to be exaggerated and can undermine the integrity of the program.

Closely related to the trainees' level of formal education is the language of instruction at the FTC. Here again the findings suggest that only 13.8% of the trainees would pose an instructional problem because they were not proficient in either of the two national languages. Well over half of the trainees preferred to be taught in Kiswahili. A number of those who preferred either local languages or English would not be disadvantaged if course delivery was conducted in Kiswahili.

One of the most significant findings is that 69.7% of the FTC trainees interviewed and 74.1% of those who responded received most of their information from the

conventional extension agents while only 14.2% received information from FTC staff. It was noted that 53.1% of the trainees were not attending an FTC course for the first time. Thus, if the same question was asked to a randomly selected group of farmers in any part of the country, the influence of the FTC would hardly be noticeable.

Summary

This chapter has looked at the background of FTC trainers, and more particularly at the academic qualifications, professional training and ranks of the trainers. The chapter questions the correlation between the performance of an FTC and the academic qualifications of the FTC principal, a strongly implied relationship in the literature on the FTC Program. The chapter suggests that there is no educational content in the university agricultural curriculum which should account for the superiority of university graduates as trainers. On the contrary, the agricultural diploma program at Egerton College and the agricultural certificate program at Bukura and Embu seem to place greater emphasis on the theory and methods of instruction and extension.

The sample of trainers in this study shows that there is no special course given to FTC trainers. The

program seems to assume that anyone who knows more agriculture than the farmers has all it takes to make a trainer at the FTC. Most of the inservice training courses done by FTC instructors, for example, are not related to their role as trainers. There is no sense of identity between the trainers and the program. In fact, most of the trainers would rather work elsewhere within the agricultural extension system than remain at the FTC.

At the base of the FTC Program there is an assumption that small scale farmers in Kenya do not have the basic competencies which should enable them to produce at a level desired by the agricultural extension system. This chapter suggests that the FTC Program has not determined what the critical competencies or knowledge gaps are. Consequently the program does not have specific goals.

The trainers have insufficient knowledge of the background of their trainees. In particular, the knowledge of the trainees' home surroundings, family, educational background and farming practices is very low. Most farmers receive their information about farming from conventional field extension agents, and not from the FTC.

This survey of trainers' and trainees' perception of the FTC Program indicates the stage of curriculum

evolution attained by the FTC Program at the time of the study, raising questions about the future of the program which will be addressed in the next chapter.

CHAPTER VII
SUMMARY CONCLUSIONS AND SUGGESTIONS
FOR FURTHER INVESTIGATION AND DEVELOPMENT

Highlights of the Study

Past studies have not discredited the FTC Program in spite of apparent lack of interest from potential trainees as evidenced by frequent course failures, under-enrollment and underutilization of FTC facilities. On the contrary, the studies have tended to give the impression that the program is theoretically more effective than conventional extension. Training resources and personnel are utilized more economically and systematically to serve large groups in contrast to traditional extension, where effort is spread thin to individuals and the process of instruction tends to be unsystematic. Thus the Government of Kenya seems to have been influenced to proceed with the expansion of the FTC Program in the hope that the minor defects in the program would, in due course, be identified and rectified.

Evidently the problems of the FTCs have tended to be clouded and magnified by the failure of past studies to distinguish between (1) policy issues which could only be addressed by the Ministry of Agriculture and the

Government of Kenya; (2) internal administrative problems which the FTC principal could handle with support from local management committees, field employees of the Ministry of Agriculture and FTC trainers; and (3) curriculum issues, or issues about educational content and activities, which could be investigated, and where necessary reorganized, by FTC trainers without undue constraints from outside the program. Unless the problems of the program are classified along these lines, it becomes difficult to apportion responsibility for improvement of the different aspects of the program.

By investigating how the structured courses are utilized within the FTC Program, this study hopes to make a contribution to evaluative studies of all structured out-of-school (nonformal education) programs. In particular, this study should be of interest to administrators and trainers in nonformal education and to curriculum developers and the trainers of trainers for both nonformal education programs and for conventional extension approaches.

The definition of curriculum offered in this study is intended to indicate the importance of appreciating the breadth and depth of a nonformal education program, and the fact that the whole curriculum may not be visible and clear even to those who have designed it.

Hence the need for educators to review and to explore the ever changing curriculum environments and educational content.

This study suggests that research and evaluation of nonformal education have been, to some extent, inhibited by the tendency among nonformal educators to shy away from the principles and tools developed for the formal education sector. The study suggests that nonformal educators who are not given some formal training in educational philosophies, learning theory and the process of teaching are likely to waste time trying to reinvent the wheel, experimenting with theories known for a long time instead of building on what already exists.

Whether FTC and other nonformal education trainers receive formal training in educational theory and practice or not, they cannot avoid the responsibility of making curriculum decisions. To make rational decisions on what should be learned and how learning should be conducted, one should have an idea of the purposes of the program (philosophy or rationale) and the ability of the target group to master the educational content (learning theory).

Decisions on the purposes of education and the learning process presuppose knowledge of the educational problem or the learning need to be addressed. This study has suggested that classification of learning needs on

the lines proposed by Dave and Evans helps to indicate what degree of specificity is required to articulate learning needs at different levels, and more importantly at the level of the individual learner and the learning group.

The concept of nonformal education evolved in the late 1960's and early 1970's, but the FTC Program evolved more than three decades ago. The Kenya FTC Program evolved within the Department of Community Development and not the agricultural extension system. In the 1950's the agricultural extension system mounted its own program to replace the community development program. Both the community development program and the agricultural extension program were based on the strategy of dispensing rural development through "progressive farmers."

The Kericho Conference on "Education, Employment and Rural Development" seems to have passively accepted the concept of development through progressive farmers. This study suggests that (1) the progressive farmers are relatively few in number; (2) many of them are committed to numerous other occupations apart from farming; and (3) quite a large proportion have fairly high academic qualifications and would not benefit from the elementary courses offered by FTCs. From this standpoint, the FTC Program has no problems of underenrollment or

underutilization of facilities: the problem may be that the facilities are too large for the projected clientele.

This study has seriously questioned the linkage between the academic qualifications of an FTC principal and either the motivation of potential trainees to register for courses or the general performance of the FTC. The Kericho Conference report, and all other commentaries which suggest problems would be solved when the FTCs were administered by university trained principals, have not produced sufficient evidence to link the qualifications of the principal to the performance of the FTC.

The Kericho Conference was followed by the Agricultural Education Commission which, among other things, recommended the establishment of community based boards of governors for FTCs; formal training in education for FTC trainers; development of attractive career and salary structures for FTC trainers; provision of accommodations for trainees who come to courses with babies; and the need to provide sufficient funds for the program.

This study has questioned the Commission's recommendation that agricultural education be integrated with educational content from other sectors of rural development. It is not clear what integration would entail, what the educational value of the integrated mass would be and how the integrated mass would contribute to the

motivation of FTC potential trainees or the development of the group approach to rural extension.

Another surprising recommendation made by the Commission relates to the role of the FTC demonstration farm. The Commission concluded that running the farm as a commercial venture, i.e., making a profit, would be in conflict with the training function of the FTC. This researcher believes that a demonstration farm, which is intended to teach rural people how to live off the land, is worthless unless it produces a surplus which would be equivalent to the basic needs of a farmer plus a small profit or saving. This production of a surplus is the main message the demonstration farm can give.

Unlike the Kericho Conference paper which placed emphasis on development through "progressive farmers," the Agricultural Education Commission perceived the FTC as a program which should spread over the whole district. The Commission proposed that extra rural units be established in the district to act as a main link between the FTC and the target community.

During the 1960's, the FTC Program was expanded by establishment of new centers and expansion and renovation of existing centers. In the 1970's, the main development was the experimentation with the "integrated model" at the Matuga FTC and Embu FTCs, which were

henceforth known as District Development Centres. In 1975 the first curriculum for the DCC was published. The curriculum was not only conceptually confused, but it was also in conflict with the main thrust of the nonformal education approach, i.e., to focus on development problems rather than on educational content.

The strongest arguments in favor of the FTC program are built around the group approach to extension. But the concept of a group within the FTC context seems to be interpreted very loosely to mean a number of individuals receiving the same message at the same time.

The Soya Beans Extension Project in the Lowlands of Kibii and the Tetu SRDP experiments which preceded it were intended to be examples of a group approach to extension. But the "group" was not the focus of these experiments, nor was any attempt made to explain how the group approach implied in the model would be replicated on a wider scale. The experiments were, in fact, carefully planned versions of the regular FTC model. Instead of the progressive farmers receiving the innovation first, the researchers preferred to develop a different elite group known as the "average farmers." Like the progressive farmers, the average farmers were expected to influence their neighbors to adopt innovative ideas and practices.

The Equator Community Education Project is based on a different concept of a "group" from the program described above. In its initial development, the project started with identification of neighborhood-based groups and establishment of new groups where none existed. The groups reflected on their problems and problems of their areas and drew out lists of their development problems and priorities. Thus, the first lesson was not concerned with technical education, but on a discussion of the participants' quality of life and main problems. The second lesson was on management of the group. Training in technical and management skills came later in the life of the group. Sociologically, the Equator Community Education Project has well knit groups with common cultural and economic bonds.

The Main Findings

Very little research has been done on the FTC Program per se. Two documents referred to in this study, the Kericho Conference report and the Agricultural Education Commission report, were mere commentaries prepared for a conference and an evaluation report, respectively. As indicated in the text the Agricultural Education Commission took only seven weeks to review all aspects of agricultural education in the country and to report to

the government. It seems unlikely to the writer that within such a short time this commission would have inspected existing agricultural educational programs, and formulated solutions to all the problems identified. Studies of rural development and conventional extension have not given sufficient attention to structured residential courses as a strategy of rural development. Annual reports on the FTC Program tend to be brief, superficial and biased. The purpose of an annual report seems to be to assure the agricultural system that the FTC program is still on the right course.

Studies and documents written about the FTC programs in the past have not made the essential distinction between curriculum and non-curriculum issues. Some of the erroneous conclusions made in the past, and attempts to find solutions to FTC Program problems in the wrong quarters, must be in part attributed to the mix up between curriculum and non-curriculum issues.

It is not clear who the clients of the FTC Program should be. The Kericho Conference report says they are the progressive farmers while the Agricultural Education Commission suggests that the program should be expanded to reach all farmers. The issue of clientele has become even more complicated by the introduction of

the DDC integrated model, called a "multi-purpose center" which opens its doors to all.

Most educational programs have a statement which explains the scope and emphases of the educational activities. The statement may be expressed as a set of educational problems to be solved (learning needs) or as goals to be attained (objectives). The findings in this study are that the FTC Program as a whole does not have a general statement of either learning needs to be fulfilled or objectives to be attained. There seems to be little evidence to suggest that the instructors have been making an effort to collect substantive data from their clients as a base for course development.

When trainers were asked to state how much they knew about their clients' home areas, educational background, family responsibilities, farming practices, and previous FTC courses attended, the instructors showed that they have a very hazy idea of the background of the trainees. This information was in a way confirmed by responses from the farmers which showed that they received most of their information about farming and the FTC Program from field extension workers and not FTC instructors. Thus any investigation of the FTC Program should lead to the conclusion that the program does not have a clear purpose in the development of the country and should be

abolished. The DDC model is not an improvement on the FTC approach. In fact the goals of the DDC model are, in the opinion of the writer, less clear than those of the FTC Program.

This study has also shown that the FTC Program has successfully resisted reforms over the past twenty years. The Kericho Conference, the Agricultural Education Commission and Conferences of FTC Principals made numerous recommendations on the staffing, financing, salary structure of FTC employees, staff development, the use of the FTC farm, and other aspects of the FTC Program. These were not implemented.

Recommendations for Further Development

Policy issues.

1. While the funding has been remarkably improved since the mid 1970's, two minor issues still deserve attention:
 - a) Unless FTCs can see any financial benefits from the demonstration farm, members of staff will continue to have low motivation in development of the farm, and will continue to carelessly dispose of its produce. At the moment, most FTCs are a cheap source of eggs, pork, milk and other farm produce

to local government servants and other persons known to FTC staff.

- b) Since all the funds raised from fees have to be paid to the National Treasury, any space provided to non-farmer courses is lost to farmer courses.

In both cases there is a need to review the policy so as to allow FTCs to plough back at least a fraction of the funds raised from both sources. This change will also enable enterprising FTCs to remain in business throughout the year. At the moment, an FTC which organizes many courses at the beginning of the financial year, exhausts its financial allocation before the end of the year and is forced to slow down or close down for the second half of the year.

2. It is surprising that the Ministry of Agriculture has not involved other government field workers and local community leaders in the management of FTCs. The District Commissioners, District Development Officers and any outstanding local leaders would strengthen the links between the FTCs and the target community.
3. It is futile to run an educational program without professionals who have been trained for

their job. It seems that before a TA or TO is posted to an FTC, he should undergo an orientation course in the art of teaching. FTC trainers should have regularly scheduled retraining seminars and workshops to update their understanding of the program and the strategies and tactics to be employed.

4. The special duties which the FTC assigns to FTC trainers entail making personal sacrifices. It would seem logical therefore, that all FTC staff should receive an allowance which is commensurate with their role. Principals and vice-principals would be entitled to a higher allowance than the other trainers, who normally contribute less to the boarding function of the FTC. Once a trainer moves from the FTC to field work the allowance should cease forthwith.
5. The DDC model does not, in the opinion of this researcher, provide any new insights into the problem of educating farmers. However, FTCs should continue to provide conference facilities for all training programs in the District. The funds spent on non-agricultural courses should be retrieved from the fees and used for farmer courses.

Curriculum issues.

1. Each FTC should carry out a survey of the needs of the target community as a basis for developing training objectives and priorities. It should be understood that the objectives of a nonformal education program cannot be static for any length of time. Curriculum development should be seen as a continuous process.
2. For each course, the FTC instructors should visit the homes of a selected sample of participants to ascertain the background of the trainees in terms of actual agricultural practices, farming constraints such as the size of land holdings, physical and climatic controls, educational background, etc.
3. Within the demonstration field there should be two or more small holdings run by some of the families employed at the FTC, e.g., a driver, a cook or a farmhand. The person assigned a small holding should live on it and use his/her own resources to carry out all the tasks on the farm. The FTC should make sure that the small holding is cultivated on time and that the right farm inputs are used for demonstration purposes. The farmer should keep all the produce from the

small holding but submit to the FTC a full account of his investment in the different activities on the farm and the cash value of the produce. FTCs with large farms of 1000 acres and more can afford to run several small holdings of five to ten acres each alongside the main demonstration plot. The teaching value of such a set of demonstration farms would be higher if each unit specialized on specific activities like cash crop production, subsistence farming, vegetable production, poultry keeping and dairy farming. Some of the areas of specialization like poultry keeping and dairy farming could be incorporated into the main demonstration plot as well but managed as separate entities.

4. As noted in Chapter V, the Government Development Plan published in 1964 pointed out that the teaching role of FTCs was important but limited in the numbers of farmers who could participate. In the same year, the Ministry of Agriculture issued a policy statement on FTCs which mainly defined the relationship of the FTC Program to conventional extension. The statement expressed some doubt about the heavy investment in the

FTC Program. In 1972, the ILO Mission to Kenya pointed out that it would require twenty years to provide one course to one member of the small scale farmers' household if all FTC facilities were fully utilized. In practice, about 50% of the FTCs were effectively utilized and one course per household would be of little value.

The Agricultural Education Commission proposed that the FTC Program should be expanded to reach the farmers in their home areas through extra-mural centers established at Divisional Centres, Chief's Centres and market places. Somehow FTC trainers would use these centers to disseminate new ideas and technology while at the same time getting feedback from farmers and learning more about the small scale farmers. The actual organizational details of the proposed extra-mural centers are not spelled out.

The researcher recommends the group approach developed for The Equator Project. The salient characteristics of the model are:

1. Small scale farmers are organized in neighborhood-based learning groups which work on rural development activities determined by the farmers themselves.

2. The group cuts across different levels of formal education attainment, agricultural innovativeness and work experience, thus facilitating intra-group learning and "innovation sharing."
3. The group structure facilitates dissemination of ideas. The change agent can channel messages to members of the group through group meetings, leaders and even through ordinary group members. The group provides a climate through which the change agent and members of the group can give instructions and make criticism without hurting the feelings of individual farmers.
4. It is easier to provide a systematic and need-based learning program for a neighborhood-based group.
5. It is relatively easy to identify areas of more extensive training which should be catered to at the FTCs.
6. Group process can be used for various purposes including recovery of farming credit, work on off-the-farm agricultural activity and non-agricultural projects.
7. Group activity and learning can go on throughout the year without interruption or seasonal fluctuations.

8. Inter-group dynamics can be used to create a competitive climate that encourages change.

Adoption of the the Equator Project model would require a drastic reorganization of the frontline extension approach. The frontline agents would play the role of planners and field organizers, getting the farmers into groups and assisting them to identify their development priority. The next level of extension agents, locational and divisional agricultural officers as well as FTC trainers would provide a backup system for the frontline workers, giving specialized demonstrations, organizing residential training programs and disseminating information on government policy.

The FTCs would be used for more regular workshops for frontline workers to review their strategies, give feedback to the trainers and administrators and generally share experiences from different local situations. Residential courses for farmers would be more purposeful, e.g., 1) dealing with needs that cut across most of the target community; 2) developing of leadership for the learning groups; 3) dealing with development problems specific to a region, group or a set of groups, etc. The FTC would become a more professional institution playing three roles in development:

1. A staff development center for frontline workers;

2. A resource center helping frontline workers to assess educational needs, plan and implement appropriate structured courses and evaluate the impact of the courses provided; and
3. A training facility for specialized farmer training courses, and a conference center for non-farmer educational programs.

List of Abbreviations

AO	Agricultural Officer
DAAO	Divisional Assistant Agricultural Officer
DAHO	District Animal Husbandry Officer
DAO	District Agricultural Officer
DDC	District Development Centre
DETO	District Extension and Training Officer
DLFMO	District Land and Farm Management Officer
DO	District Officer
DVO	District Veterinary Officer
FDI	District Farm Institute
FTC	Farmer Training Centre
GRV	Great Rift Valley
JAA	Junior Agricultural Assistant
IIEP	International Institute for Educational Planning
ILO	International Labour Office
KTDA	Kenya Tea Development authority
LDC	Less Developed Countries
NCCK	National Christian Council of Kenya
NFE	Nonformal Education
PC	Provincial Commissioner
SEPA	Science Education Programme for Africa
SRDP	Special Rural Development Programme
TA	Technical Assistants

TO Technical Officer
WEP World Employment Programme

BIBLIOGRAPHY

- Ascroft, J., Roling, N., Kariuki, J., and Chege, F. Extension and the Forgotten Farmer: First Report of a Field Experiment. Wageningen: Afdelingen Voor Sociale Wetenschappen aan Landbouwhogeschool, 1973.
- Baker, J. N. "A Study of the Relative Effectiveness of Sources from which Farmers Get Information Regarding Agricultural Stations Results." Ph.D. Dissertation, Minneapolis: University of Minnesota, 1954.
- Beauchamp, G. A. and Beauchamp, K. E. Comparative Analysis of Curriculum System. Wilmette, Illinois: The Kaggs Press, 1972.
- Biddle, W. W. and Biddle, L. J. The Community Development Process. New York: Holt, Rinehart and Winston, 1965.
- Brubacher, J. S. Modern Philosophies of Education. New York: McGraw-Hill Book Company, Inc., 1969.
- Buford, T. O. Towards a Philosophy of Education. New York: Holt, Rinehart and Winston, Inc., 1968.
- Burns, T. and Stalker, G. M. The Management of Innovation. London: Tavistock Publications, 1961.
- Carnoy, M. and Shearer, D. Economic Democracy: The Challenge of the 1980's. M. E. Sharpe Publishers, 1980.
- Chambers, R. Managing Rural Development: Ideas and Experiences from East Africa. Uppsala: The Scandinavian Institute of African Studies, 1974.
- Cliffe, L., Coleman, J. S. and Doornbos (Eds.). Government and Rural Development in East Africa. The Hague: Martinus Nijhoff, 1976.
- Coombs, P. H. with Ahmed, M. Attacking Rural Poverty: How Nonformal Education Can Help. Baltimore and London: The Johns Hopkins Press, 1970.

- Coombs, P. H. Meeting the Basic Needs of the Rural Poor: The Integrated Community-based Approach. New York: Pergamon Press, 1980.
- Curle, A. Educational Strategy for Developing Societies: A Study of Educational and Social Factors in Relation to Economic Growth. London: Tavistock Publications, 1963.
- Dave, R. H. and Evans, D. R. "Analysis of Learning Needs for Rural Development," Paris: International Institute for Educational Planning, UNESCO, 1976. (Mimeograph)
- DeVries, J. "Agricultural Extension and the Development of Ujamaa Villages in Tanzania: Towards a Dialogical Model." Ph.D. Dissertation, Madison: University of Wisconsin, 1978.
- Diaz-Cisneros, H. "An Institutional Analysis of a Rural Development Project: The Case of the Puebla Project in Mexico." Ph.D. Dissertation, Madison: University of Wisconsin, 1957.
- Duncan, J. A. Training Cooperative Extension Workers: The Coordinated Approach. Cooperative Extension Service, Madison: University of Wisconsin, 1957.
- Erozer, S. "Planning and Development of Extension Training in Rural Development at the Bukura Institute of Agriculture, Kenya." Ph.D. Dissertation, Boston: Harvard University, 1978.
- Etling, A. W. Characteristics of Facilitators: The Ecuador Project. Center for International Education, Amherst: University of Massachusetts, 1975.
- Evans, D. R. Technology in Nonformal Education, Issue Paper #2. Center for International Education, Amherst: University of Massachusetts, 1977.
- Freire, P. Pedagogy of the Oppressed. New York: The Seabury Press, 1970.
- _____. Education for Critical Consciousness. New York: Herder and Herder Press, 1973.

- Fordham, P. "The Integration of Formal and Nonformal Education." Paper presented at the Commonwealth Conference on "Nonformal Education for Development," held in New Delhi, India, January/February, 1979.
- Green, R. H. Adult Education in National Development: Notes Towards an Integrated Approach. Deutscher VolkschochshulVerband and International Council for Adult Education, Bonn: Federal Republic of Germany, 1977.
- Hersey, P. and Blanchard, K. L. Management of Organizational Behavior: Utilizing Human Resources. New Jersey: Prentice-Hall, Inc., 1977.
- Hoxeng, J. Let Jorge Do It: An Approach to Rural Education. Center for International Education, Amherst: University of Massachusetts, 1973.
- Hyden, G., Jackson, R. and Okumu, J. Development Administration: The Kenyan Experience. Nairobi: Oxford University Press, 1970.
- International Labour Office. Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya. Geneva, 1974.
- Kelsey, L. C. and Hearn, C. C. Cooperative Extension Work. Ithaca, New York: Comstock Publishing Associates, 1955.
- Kenya: Development Plan 1964-1970. Nairobi: Government Printer, 1964.
- Kenya: Development Plan 1966-1970. Nairobi: Government Printer, 1966.
- Kenya: Development Plan 1970-1974. Nairobi: Government Printer, 1970.
- Kenya: Development Plan for the Period 1974 to 1978. Nairobi: Government Printer, 1974.
- Kenya: Ministry of Agriculture. "Farmer Training Centres Annual Report 1963." (Mimeograph)
- Kenya: Ministry of Agriculture. "Farmer Training Centres Annual Report 1964." (Mimeograph)

- Kenya: Ministry of Agriculture. "Farmer Training Centres Annual Report 1969." (Mimeograph)
- Kenya: Ministry of Agriculture. "Farmer Training Centres Annual Report 1971." (Mimeograph)
- Kenya: Ministry of Agriculture. "Farmer Training Centres Annual Report for 1972-1976." (Mimeograph)
- Kenya: Report Submitted by the Agricultural Education Commission. Nairobi: Government Printer, 1967.
- Kenya: The Board of Adult Education Act, 1966. Nairobi: Government Printer, 1966.
- Kidd, J. R. How Adults Learn. New York: Associated Press, 1959.
- Kidd, D. W. "A Systems Approach Analysis of the Agricultural Extension Service of Western Nigeria." Ph.D. Dissertation, University of Wisconsin, 1971.
- Kindervatter, S. Nonformal Education as an Empowering Process. Center for International Education, Amherst: University of Massachusetts, 1979.
- Kinsey, D. C. Evaluation in Nonformal Education: The Need for Practitioner Evaluation, Issue Paper #3. Center for International Education, Amherst: University of Massachusetts, 1978.
- Knowles, M. S. The Modern Practice of Adult Education: Andragogy Versus Pedagogy. New York: Associated Press, 1970.
- _____. "The Manager as Educator," Journal of Continuing Education and Training. Farmingdale, New York: Baywood Publishing Company, Inc., Vol. 2(2), November 1972.
- Lafrancois, A. R. Psychological Theories and Human Learning, Kongor's Report, Monterey, California: Brook/Cole Publishing House, 1972.
- Leagans, J. P. and Looms, C. P. (Eds.). Behavioral Change in Agriculture. Ithaca, New York: Cornell University Press, 1971.

- Lele, U. The Design of Rural Development: Lessons from Africa. Baltimore: The Johns Hopkins University Press, 1975.
- Leonard, D. K. (Ed.) Rural Administration in Kenya: A Critical Appraisal. Nairobi: East African Literature Bureau, 1973.
- Lerner, D. and Schramm, W. (Eds.). Communication and Change in the Developing Countries. East-West Center, Honolulu: University of Hawaii, 1976.
- Leys, C. Underdevelopment in Kenya: The Political Economy of Neocolonialism. Berkeley: University of California Press, 1974.
- MacGregor, D. The Human Side of Enterprise. New York: McGraw-Hill Book Company, 1960.
- Maslow, A. H. Motivation and Personality. New York: Harper and Row, 1954.
- Matthews, J. L. "A Method for Determining the Training Needs of County Extension Agents as the Basis of Planning Training Programs." Ph.D. Dissertation, University of Chicago, 1957.
- Mbilthi, P. M. Rural Sociology and Rural Development: Its Applications in Kenya. Nairobi: East African Literature Bureau, 1974.
- Morely, F. P. The Modern Guide to Effective K-12 Curriculum Planning. New York: Parker Publishing Co., Inc., 1973.
- Moris, J. "Farmer Training as a Strategy of Rural Development." In Sheffield, J. R. (Ed.), Education, Employment and Rural Development. Nairobi: East African Publishing House, 1967.
- Mount, J. T. "Training for Extension Work in Agriculture." Masters thesis, University of Wisconsin, 1979.
- Mulusa, T. and Waka, A. O. "Equator Community Education Project, Working with the People: Work Plan for Year One, March 1981 to February 1982." (Mimeograph, obtainable from Equator Community Education Project or the Bernard Van Lear Foundation at the Hague.)

- Nyerere, J. K. Ujamaa: Essays on Socialism. London, Oxford, New York: Oxford University Press, 1974.
- _____. "Rapid Development for Kenya's Small Farms," I.D.S. Discussion Paper No. 173. Nairobi: University of Nairobi, 1973.
- Onazi, O. X. "Comparative Analysis of the Training Needs of Potential Agricultural Extension Workers and Principal Problems of Extension in Northern States of Nigeria." Ph.D. Dissertation, College of Education, Mahattan: Kansas State University, 1973.
- Owens, E. and Shaw, R. Development Reconsidered. Lexington, Massachusetts: D. C. Heath and Co., 1974.
- Prosser, R. C. "The Development of Adult Education in Kenya with Special Reference to African Rural Development 1945-1970." Ph.D. Dissertation, University of Edinburgh, 1971.
- Quinn, E. H. and Boone, E. J. "Raising Our Professional Sights in Extension," Adult Education, Vol. XV, No. 1, Autumn 1964.
- Roling, N., Chege, F., and Ascroft, J. "Innovations for Kenya's Small Farms: A Strategy for Equitable Rural Development." Institute for Development Studies, Nairobi: University of Nairobi. (Mimeograph)
- Rogers, C. K. Freedom to Learn. Columbia, Ohio: Charles E. Merrill Publishing Co., 1969.
- Rogers, E. M. Diffusion of Innovation, London and New York: Macmillan, 1962.
- Saville, A. H. Extension in Rural Communities. London: Oxford University Press, 1965.
- Simmons, J. (Ed.). The Education Dilemma: Policy Issues for Developing Countries. New York: World Bank, Pergamon Press, 1970.
- Skinner, B. F. Beyond Freedom and Dignity. New York: Knopf, 1971.

- Schonherr, S. and Mbugua, E. S. "Rapid Experiments to Replicate More Efficient Extension Strategies." I.D.S. University of Nairobi, 1973. (Discussion Paper No. 129.)
- Simkins, T. Nonformal Education and Development: Some Critical Issues. Manchester: Bowne Month, Ltd., Butts, 1977.
- Swynnerton, R. J. M. A Plan to Intensify the Development of African Agriculture in Kenya. Nairobi: Government Printer, 1954.
- Sinclair, R. L. and Glory, W. J. "Curriculum as Environments for Learning: A Practical Meaning and Model." Paper presented at the Annual Meeting of the American Educational Research Association in San Francisco, 1979.
- Tanner, D. and Tanner, L. N. Curriculum Development Theory into Practice. New York: Macmillan, 1925.
- Tyler, R. W. Basic Principles of Curriculum and instruction. Chicago: The University of Chicago Press, 1949.
- Wingo, G. M. Philosophies of Education: An Introduction. Lexington, Massachusetts: D. C. Heath and Company, 1974.
- Wolf, R. "Evaluation of Institutions, Programs and Curricula." Unpublished manuscript.
- World Bank. Poverty and Growth in Kenya: World Bank Staff Working Paper, prepared by Paul Collier and Deepak Lah. Washington, D.C., 1980.

APPENDIX I

LETTER FROM THE OFFICE OF THE
PRESIDENT AUTHORIZING THE RESEARCH

236

251



OFFICE OF THE PRESIDENT
CABINET AFFAIRS

Telegrams: Rais, Nairobi
Telephone: Nairobi 27411
When replying please quote
Ref No: UP.13/001/C 1399/9
and date

P.O. Box 30510
NAIROBI, KENYA

28th January 1981

Mr. Thomas Mulusa,
Institute of Adult Studies,
P.O. Box 92,
KIKUYU.

Dear Sir;

Enclosed herewith please find a research clearance permit authorizing you to conduct research on, "Farmers Training Centers - The Design of a Relevant Curriculum for Small Scale Farmers".

Please acknowledge receipt.

Yours faithfully,

C.A. Mwangi

C.A. MWANGO (MRS)
for: PERMANENT SECRETARY/CABINET AFFAIRS

C.C.

The Secretary,
National Council for Science and Technology,
NAIROBI.

Encl.

APPENDIX II
RESEARCH PERMIT

238

253

RESEARCH PERMIT

PAGE 2

THIS IS TO CERTIFY THAT:—

~~Prof + Dr. / Mr. / Mrs. / Miss~~
MULUSA
THOMAS

of (Address) INSTITUTE OF ADULT STUDIES,
KIKUYU.

has been permitted to conduct research in
NYERI, NAROK Location,
KISII & MOMBASA Districts
..... Province.

on the topic
"FARMERS TRAINING CENTERS - THE
DESIGN OF A RELEVANT CURRICULUM
FOR SMALL SCALE FARMERS"

for a period ending 31ST DECEMBER 1981

PAGE 3

Research Permit No. OP.13/001/G1899/8.....

Date of issue 22ND JANUARY 1981

Fee received 25/=

[Signature]
Applicant's
Signature

[Signature]
E.K. RUCHIAMI
for Permanent Secretary,
Office of the President

APPENDIX III
AGRICULTURAL EDUCATION INSTITUTIONS
IN KENYA IN 1976

AGRICULTURAL EDUCATION INSTITUTIONS IN KENYA, DECEMBER 1976
Source: FTC Report 1972-76

Institution	Province	Type of Courses	Capacity	Operating Agency
Faculty of Agriculture	University of Nairobi	3 year degree course	120	University of Nairobi
Egerton College	Rift Valley	3 year diploma	120	Board of Governors
Embu Institute of Agriculture	Eastern	2 year certificate	250	Ministry of Agriculture
Bukura Institute of Agriculture	Western	2 year certificate	250	Ministry of Agriculture
A.H.I.T.I.	Nairobi	2 year certificate	310	Ministry of Agriculture
Nyahururu large scale FTC	Rift Valley	1 farming year /short courses	30	Ministry of Agriculture

Institution	Province	Type of Courses	Capacity	Operating Agency
Naivasha Dairy Training School	Rift Valley	6 months	60	Ministry of Agriculture
Eldoret large scale FTC	Rift Valley	1 farming year/ short courses	60	Ministry of Agriculture
Bukura FTC	Western	1 and 2 week courses	56	Ministry of Agriculture
Busia FTC	Western	1 and 2 week courses	60	Ministry of Agriculture
Bungoma FTC	Western	1 and 2 week courses	60	Ministry of Agriculture
Maseno FTC	Nyanza	1 week courses	60	Ministry of Agriculture
Homa Bay FTC	Nyanza	1 and 2 week courses	90	Ministry of Agriculture

Institution	Province	Type of Courses	Capacity	Operating Agency
Kisii FTC	Nyanza	1 and 2 week courses	100	Ministry of Agriculture
Chebororwa	Rift Valley	1 week courses	60	Ministry of Agriculture
Kablanga FTC	Rift Valley	Mainly 1 week courses	70	Ministry of Agriculture
Kaimosi FTC	Rift Valley	1 week courses	40	Ministry of Agriculture
Ngong FTC	Rift Valley	1 week courses	40	Ministry of Agriculture
Narok FTC	Rift Valley	1 week courses	30	Ministry of Agriculture
Kenyatta FTC	Central	1 and 2 week courses	60	Ministry of Agriculture
Kianyaga FTC Kamweti	Central	1 and 2 week courses	30	Ministry of Agriculture

Institution	Province	Type of Courses	Capacity	Operating Agency
Wambugu FTC	Central	1 week courses	106	Board of Governors
Waruhiu FTC	Central	1 and 2 week courses	48	Board of Governors
Ol Joro Orok FTC	Central	1 and 2 week courses	60	Ministry of Agriculture
Embu FTC	Eastern	1 and 2 week courses	42	Ministry of Agriculture
Kaguru FTC	Eastern	1 and 2 week courses	86	Ministry of Agriculture
Kitui BLI	Eastern	1 and 2 week courses	60	Ministry of Agriculture
Machakos FTC	Eastern	1 and 2 week courses	80	Ministry of Agriculture
Coast FTC (Mtwapa)	Coast	1 and 2 week courses	30	Ministry of Agriculture

Institution	Province	Type of Courses	Capacity	Operating Agency
Taita FTC (Ngerenyi)	Coast	1 and 2 week courses	60	Ministry of Agriculture
Griftu FTC	North Eastern	1 week courses	30	Ministry of Agriculture
Baringo FTC (Narossura)	Rift Valley	3 month, machinery operator; 1 and 2 week courses for farmers' wives	90	Ministry of Agriculture
Kagochi Tea Centre	Central	1 week courses	40	Kenya Tea Development Authority
Lugari RTC	Western	1 week courses	60	NCCK
Isinya RTC	Rift Valley	1 week courses	56	NCCK
Kaaga RTC	Eastern	1 week courses	50	NCCK
Marimanti RTC	Eastern	10-day courses	20	NCCK

Institution	Province	Type of Courses	Capacity	Operating Agency
Salvation Army RTC	Central	1 week courses	32	NCCK
Nyabini RTC	Central	6 to 10 day courses	40	NCCK
Ilkerin (private)	Rift Valley	1 to 2 week courses	20	Catholic Church of Kenya
Bomet (private)	Rift Valley	1 to 2 week courses	20	Kipsigis County Council
Baraka (private)	Rift Valley	1 to 2 week courses	28	Diocese of Nakuru
Limuru Boys Centre (private)	Central	1 year trade and agricultural courses for primary school leavers	60	Limuru Boys Centre, Ltd.
Matuga DDC	Coast	1 week to 1 year courses	150	Ministry of Agriculture

Institution	Province	Type of Courses	Capacity	Operating Agency
Embu DDC	Eastern	1 week to 1 year courses	150	Ministry of Agriculture
Siaya FTC	Nyanza	Proposed	60	Ministry of Agriculture
Laisamia	Eastern	Proposed	40	Ministry of Agriculture

APPENDIX IV
FARMER TRAINING CENTRE STUDENTS
(Interview Schedule)

FARMER TRAINING CENTER STUDENTS

A questionnaire to determine the characteristics and training needs of FTC trainees. The questionnaire will be administered by research assistants. (* means specify)

PERSONAL DATA

1. Names _____

2. Age

under 15	15-24	25-34	35-44	45 and over

3. Sex

Male	Female

4. District _____ Division _____
 Location _____ Sub-Location _____

5. Marital Status

Married	Single	Other *

6. Number of children _____

7. Who owns your farm, i.e. in whose name it is registered?

Self	Spouse *	Parents	Employer	Other *

8. Size of the farm (all units combined:)

Up to 2 acres	3-15	16-50	Over 50	Don't know

9. Registration number _____

10. Name of the three most important enterprises on your farm
 (e.g. types of crops or animals)

11. Indicate to what extent farmers have the same enterprises

Very few	Average	Most	None

- 2 -

12. Is farming your full time occupation?

YES	NO

13. If your answer is "NO" what other jobs/occupations do you do?

14. What is your estimated total income per year (income categories):
in f.

0-99	1000-1999	2000-2999	3000-3999	over 4000	Don't know

15. What is your yearly cash income from Agriculture?

EDUCATION AND TRAINING

16. At what level did you leave school?

Std 1-4	Std 5-7	C.P.E.	Form 1-2	Form 3 and above

17. What training have you taken since leaving school?

Type of Training	To (date)

18. What languages can you speak?

Mother tongue	Mother tongue and Swahili	Mother tongue and English	All three

19. In what languages would you like FTC lessons to be taught

265

- 3 -

20. (a) Have you attended courses at this or any other FTC, or any other Adult Education institution in the past five years?

YES	NO

- (b) If your answer is "yes", list the title of the course and the dates attended.

Title	From	To

21. How did you get information about this course?

From:	Extension agent *	FTC staff	Friend	Admini- strator	Other *

22. Have other persons from your farm received FTC training? Specify relation to you

Name	Relationship

23. Name the three most important things you hope to learn from this course:

24. Name three problems which you feel you cannot handle without training.

- 4 -

25. a) What is the educational background of the head of your farm?

b) What training has he/she had in farming?

26. What things would you like to learn most?

	VI	I	FI	NI	DK
<u>Land Management</u>					
Knowledge of soil types, cultivation methods and conservation measures.					
<u>Crop Production</u>					
Knowledge of selection of seed, growing conditions, use of manure, fertilizer and other chemicals, harvesting and storage.					
<u>Livestock Production</u>					
Selection of good breeds, feeding, health care and bringing up young animals.					
<u>Facilities and Equipment Management</u>					
Maintenance of buildings, machinery and tools.					
<u>Business Management</u>					
Defining goals, planning, understanding of management principles.					
<u>Marketing</u>					
Understanding the role of cooperatives, systems of private marketing, etc.					
Other					

(VI= Very Important; I=Important; FI=Fairly Important; NI=Not Important; DK=Don't Know)

27. a) Do your close neighbours attend FTC courses?

YES	NO	DON'T KNOW

b) If your answer is "NO", give reasons why they do not attend:

- 5 -

- 27.(c) Have you ever failed to attend a Course to which you were invited?-

Yes	No

(d) What reasons made you fail?

- 28.(a) How much fees did you pay to attend this course
 Shs. _____

(b) If you did not pay any state who paid for you

(c) Do you consider the fees to be low, average, too high

29. What organization do you belong to and what position's of leadership do you hold, if any (e.f. Church, KANU, Harambee Project). _____

30. Name the most important thing the Government can do to help you and the farmers in your area.

31. Have you raised farming loans from any of the following areas-

Banks	Co-Op. Society	AFC	Other	None

32. What problems do you have, if any, with raising farming loans?

- 33.(a) Do you intend to attend another FFC Course

Yes	No

(b) If your answer is yes name some of the courses you would like to attend or things you would like to learn.

34. Are there any questions or problems which you feel that this questionnaire has not dealt with? Give details.

APPENDIX V
FARMER TRAINING CENTRES QUESTIONNAIRE
FOR PRINCIPALS AND INSTRUCTORS

26J

FARMERS TRAINING CENTERS
THE DESIGN OF A RELEVANT CURRICULUM FOR SMALL SCALE FARMERS
QUESTIONNAIRE FOR FTC/DDC PRINCIPALS AND INSTRUCTORS

This questionnaire is intended to collect data which will later be shared with all FTC administrators and instructors. Names of the respondents will not be disclosed to anyone, and you are not bound to give your name. Please answer all questions. Thank you for your cooperation. (** Means specify)

PERSONAL DATA

1. Name _____ FTC _____

2. Present Position _____

3. Equivalent rank in the Ministry _____

4. Highest educational qualification _____

5. Agricultural training

JAA	TA	BSc	ABOVE BSc

6. a) Have you had any other professional or vocational training?

YES	NO

b) If your answer is "Yes", explain what kind of training:

Description	From	To

7. The period worked with the Ministry of Agriculture:

Description of the Job and Rank	From	To

8. Any other jobs held:

Description and Rank	From	To

- 2 -

9. a) if you were asked to design your functions, what would be your preference
- i) to continue working at the FTC
 - ii) to work at a research center
 - iii) administration
 - iv) extension work
- b) if you were to leave FTC work, explain why you think the position you prefer is better than FTC teaching

THE FTC PROGRAM

10. How would you describe the objectives of your program?

Very clear	Clear	Not clear	Don't know

11. Would you consider the objectives vis-à-vis the target populations:

Very suitable	Suitable	Not suitable	Don't know

12. Of what
-
- FTC Program

training

	Very important	Important	Not important	Don't know
Literacy				
Consciousness-raising				
Others				

13. How do you rate the effectiveness of FTC in:

	Very effective	Effective	Not effective	Don't know
Ability to reach the target population				
Relevance of the learning needs				
Fulfilment of individual learning goals				
Involvement of learners				

-3-

14. What are the most important objectives of your FTC
(if they are many, state the three most important):

a. _____
b. _____
c. _____

TRAINEES AND THEIR LEARNING NEEDS

15. a. Are there critical competencies which farmers
served by your FTC should have?

- b. Has your FTC developed a specific list of
the critical needs or the required competencies
of your learner?

- c. List the five most important competencies

- d. What are the formal educational levels of the
present students:

Never been to school ____ (Give number or estimate)
Four years or less of schooling ____ Five to seven ____
Over seven years of schooling ____
Do not know ____

- e. How many of the trainees have salaried jobs or
other occupations? ____
f. How many are dependant entirely on farming ____
g. List four of their most critical learning needs:
(a learning need is a knowledge deficiency).
(continued on the next page)

-5-

	VI	I	FI	NI	DK
<u>Land-Management</u> Knowledge of soil type, cultivation methods and conservation measures.					
<u>Crop Production</u> Knowledge of the selection of seed; growing conditions; use of manure, fertilizer and other chemicals; harvesting and storage					
<u>Livestock Production</u> Identification and selection of breeding stock, feeding, health care and bringing up young animals					
<u>Facilities and Equipment Management</u> Maintenance of buildings, machinery, and tools					
<u>Business Management</u> Defining goals, planning, understanding of management principles					
<u>Marketing</u> Understanding cooperative and private marketing					
<u>Other</u>					

19. a. Do you consider the fees charged by FTC to be too high reasonable, or low? _____
- b. Please explain your answer _____

- c. In what ways can FTC be financed? _____

- d. List the main causes of underenrollment and lack of interest in FTC programs.

- 6 -

20. What procedure is used by your FTC to develop your curriculum, i.e. how do you decide what to include in the curriculum, or what steps do you take to develop a curriculum?

i) _____
ii) _____
iii) _____
iv) _____
v) _____

21. In your opinion what questions has this questionnaire not raised about the FTC curriculum?

i) _____
ii) _____
iii) _____

22. Please comment on the significance of research into the FTC curriculum. Is there a need for research and does this questionnaire address the key issues?

APPENDIX VI
UNIVERSITY OF NAIROBI
FACULTY OF AGRICULTURE

UNIVERSITY OF NAIROBI
FACULTY OF AGRICULTURE

UNDERGRADUATE PROGRAMMES
BACHELOR OF SCIENCE IN AGRICULTURE

Admission Requirements:

- A. 1 Candidates must, in satisfying the minimum entrance requirements for the University, offer two principal level passes in Biology and Chemistry.
- A. 2 (a) In addition to A.1 above, candidates must offer passes at least at subsidiary level pass in Physics or Mathematics.
(b) If Mathematics is not offered at principal or subsidiary level, it must be offered at School Certificate level or equivalent examination, with a credit or above.
- A. 3 Alternatively, admission may be granted to outstanding diplomates from a recognized Agricultural or Veterinary College. Such candidates must:
 - (a) hold a Diploma with Credit or Distinction from such a College;
 - (b) be supported in their application by a Statement from the Principal of that College to the effect that their performance in the Diploma course was exceptionally good and that their understanding of basic sciences is such that they will be able to benefit from a degree course.
- A. 4 Any candidate currently employed shall have his application supported by a statement from his employer.

Course of Study

- A. 5 The teaching for the degree shall extend over not less than three

A 305 Soil Science II
A 306 Crop Protection
A 307 Animal Health and Hygiene
A 308 Food Technology

academic years, the first two consisting of four terms, the third consisting of three terms. The fourth term of the second year shall be used for practical work.

Curriculum

A. 6 *First Year*

- A 100 Introduction to East Africa Agriculture (including a tour lasting two weeks of important Agricultural Regions in Kenya).
- A 101 Mathematics
- A 102 Chemistry
- A 103 **Zoology** for Agriculture
- A 104 Physics for Agriculture
- A 105 Biochemistry
- A 106 Statistics
- A 107 Botany for Agriculture
- A 108 Genetics and Principles of Breeding
- A 109 Plant and Crop Physiology
- A 110 Animal Physiology
- A 111 Economics I

A. 7 *Second Year*

- A 200 Economics II
- A 201 Rural Sociology and Development
- A 202 Agricultural Policy and Law
- A 203 Crop Production I: Crop/Grassland Production
- A 204 Genetics and Animal Breeding
- A 205 Nutrition and Breeding
- A 206 Agricultural Engineering
- A 207 Soil Science I
- A 309 Farm Practice (nine weeks practice on selected farms, during 4th Term).

A. 8 *Third Year*

- A 300 Farm Management
- A 301 **Agricultural** Marketing and Extension
- A 302 Crop Production II: Crops and Horticulture
- A 303 Animal Production II
- A 304 Agricultural Engineering

EGERTON AGRICULTURAL COLLEGE
NJORO, KENYA 9179-82 CATALOGUE

EDUCATION & EXTENSION DEPARTMENT (7.....)

EDUC. 711: INTRODUCTION TO LANGUAGE COMMUNICATION:

Meaning of Communication, forms of communication, e.g. spoken language, written language, communication by signs; Speech-making; Forms of public address, e.g. lectures, debates. Choice of topic and the level of audience; Effective conclusion; Prepared and unprepared speech; Code switching and code mixing in language communication; Introduction to language writing; Translation of texts.

Lecture — 30 hrs. C.F. 3

Y1 T1 — ED, FT, RM.

Y1 T2 — HEC, AG, AH, DT, FM, HORT, FP & M, S & W.

Y1 T3 — AHE.

APPENDIX VII
EGERTON AGRICULTURAL COLLEGE
NJORO, KENYA 1979-82 CATALOGUE

280

265

EDUC. 712: TECHNICAL WRITING AND REPORTING:

Meaning and scope of technical writing and reporting; Main principles; Types of reports; The techniques of technical writing; Style and presentation; Definitions and multiple meanings and writing a model report.

Lecture — 20 hrs. C.F. 2

Y2 T1 — AHU, RM.

Y2 T2 — ED.

Y2 T3 — Hort, AG, FM, HEC, S. & W., FP. & M., FT.

Y3 T1 — AHE, DT.

EDUC. 713: AGRICULTURAL EDUCATION SEMINAR:

Major issues facing education in the agricultural context. Opportunity for students to integrate theory with their own practical experiences. Use of outside resource people for discussion of topics of general interest and value to students; Brief review of the major areas of the agricultural education curriculum.

Seminar — 10 hrs. C.F. 1

Y3 T3 — ED.

EDUC. 721: DEVELOPMENT AND HISTORY OF EDUCATION IN KENYA:

The meaning and components of agricultural education. Development of Agricultural Education in secondary schools; elements and essentials of agricultural development; Contributions of agricultural education to economic and social development; Brief survey of educational development around the world, the beginning (or introduction) of modern education in Kenya; the contribution of the government, churches and private organizations towards establishment and expansion of education. Organization and educational policy before and after independence. Expansion and consolidation of Higher Education. Trends and problems for the future.

Lecture — 30 hrs. C.F. 3

Y1 T2 — ED.

EDUC. 723: PHILOSOPHY OF EDUCATION:

Introductions to General Philosophy; Functions of Philosophy, Logic; Epistemology; Metaphysics; Axiology; Philosophical Principles in Education. Aims of Education. Major philosophers and philosophies of Education. Education, Society and Development; Concept of Nation Building; constraints in Kenya's Educational systems. Alternatives to formal Education in Kenya.

Lecture — 30 hrs. C.F. 3

Y2 T1 — ED.

EDUC. 724: SECONDARY SCHOOL ORGANIZATION AND MANAGEMENT:

Principles and techniques of organization and management applied to the operation of secondary schools; Concept and theory in school administration; Meaning and development of educational administration; Kenya Government educational policy and Ministry of Education administrative structure; Administrative tasks of secondary schools in connection with: School-community relations, Curriculum and instruction; pupils; staff; physical facilities; decision making, programming, stimulation, appraising and co-ordinating.

Lecture — 30 hrs. C.F. 3

Y3 T1 — ED.

EDUC. 731A: EDUCATIONAL TECHNOLOGY I:

Technical Background to the application of electro-physical principles in educational technology; Graphics, Photo-Technology; Video systems, Audio systems; Audio-video systems; Special problems. The development and use of mass media; Specifications for architectural environments; Repairs and administration in educational technology.

Lecture/Practical — 20/30 hrs. C.F. 4

Y2 T2 — ED.

EDUC. 731B: EDUCATIONAL TECHNOLOGY II:

Technical background i.e. the application of electrophysical principles in educational technology; Graphics; Photo-technology; Video systems; Audio systems; Audio-Video systems; Special problems; The development and use of mass media; Repairs and administration of communications technology; Graphics; Photo-technology; Special problems; Special techniques and presentation in adult teaching.

Lecture/Practical — 20/40 hrs. C.F. 4
Y2 T3 — ENG.

EDUC. 731C: EDUCATIONAL TECHNOLOGY III:

Introduction to communications: Process & Role of communications; Fundamental Electrical and Electronic principles as they relate to communication systems/graphics; Production and use of charts; graphs and exhibits techniques.

Selection, processing and use of cameras and related materials. Sound Transmission and use of Related Equipments (recorders, P.A., Radio) in Education and Extension.

Operation maintenance and use of Film & Slide projectors. Teaching of Practical skills with multi-media.

Lecture/Practical — 20/20 hrs. C.F. 4
Y3 T1 — IIEC.

EDUC. 732: CURRICULUM DEVELOPMENT & GENERAL METHODS OF TEACHING:

The meaning of curriculum; the process of curriculum planning; Patterns of curriculum organization; the organization of subject content and learning experiences; the attention will be given to such elements as syllabus, scheme of work and lesson plans; Principles of effective and successful teaching.

Lecture — 40 hrs. C.F. 4
Y2 T3 — ED.

EDUC. 733: SPECIAL METHODS OF TEACHING (AGRICULTURE):

Objectives of teaching agriculture in Secondary Schools and teacher training Colleges; qualification and duties of an agriculture teacher; developing the course of instruction; specific methods in agriculture teaching. Planning and developing the students' supervised farming programmes.

Lecture — 20 hrs. C.F. 2

Y3 T1 — ED.

EDUC. 734: SPECIAL METHODS OF TEACHING SCIENCE SUBJECTS:

The meaning of science.

Objectives of teaching science subjects in secondary schools.

Developing curriculum, schemes of work and lesson plans in science subjects, e.g. Biology.

Methods of teaching science subjects: e.g. scientific method; practical and field trip approach; group teaching using discussion method, etc.

Organization and management of teaching facilities of a science school department.

Testing and Evaluation of science subjects.

Lecture — 20 hrs., C.F. 2.

Y3 T1 — ED.

EDUC. 735: TEACHING PRACTICE:

A period of one term spent in schools teaching agriculture and related subjects during which the students are given the opportunity to gain practical experience supervised by their own lecturers as well as experienced school administrators and teachers; students will be given guidance to learn by observation and practice, the various aspects of school organization and administration. The students will be assessed towards the end of the practical period by both College Lecturers and External Assessors appointed by the Ministry of Education.

Practical — 120 hrs. C.F. 12

Y3 T2 — ED.

EDUC. 736: OUTSIDE VISITS:

Students make organized visits to various places of Agricultural and Educational importance. These are followed by discussions and comprehensive reports.

Visits — 100 hrs. C.F. 3
Y3 T1 — ED.

EDUC. 741: INTRODUCTORY PSYCHOLOGY:

The course is intended to give the students an understanding of psychology as it contributes to a well-rounded education; the course should give the student an understanding of psychological process in himself and other people with an aim of facilitating his personal adjustment; attention will be given to the following broad subject area: What psychology is; the background of behaviour (cultural, biological) heredity and maturation; determinants of behaviours; the person and personality (i.e. individual and social adjustment, etc.).

Lecture — 20 hrs. C.F. 2
Y1 T2 — HEC.
Y2 T1 — RM.

EDUC. 742: DEVELOPMENTAL PSYCHOLOGY:

The students, who will largely be dealing with both youth and adults in typical learning situations will make a study of human growth and development with special emphasis on the psychological processes that take place during human development; emphasis will be placed on the analysis of how these processes can be utilized for optimum gain in behaviour in the family and peer group; Discipline, exceptional pupils; counselling for the learner.

Lecture — 30 hrs. C.F. 3
Y1 T3 — ED.

EDUC. 743: LEARNING EVALUATION AND MEASUREMENT:

Basic concepts of learning and teaching. The principles of learning as applied to teaching situations e.g. Theories of learning; How people learn; Factors affecting learning; Definition of educational measurement and Evaluation; Deriving and stating educational objectives. Elementary classification of educational objectives; Types of tests; preparation of scores by means of using descriptive statistics (grouping and tabulation of scores, frequency distribution, measurement of central tendency and variability). Grading and reporting.

Lecture — 30 hrs. C.F. 3
Y2 T1 — ED.

EDUC. 744: HEALTH EDUCATION:

Background to health education in schools; Background in human anatomy — human organ systems, their interdependence, significant disorders and care;; Communicable and non-communicable diseases of importance in East Africa, and their control; Emergency treatments; General principles of physical and mental health. Health and nutrition; sports in schools, the general school environment; Family Planning; Population control and health in East Africa.

Seminar 30 hrs. C.F. 3
Y2 T2 — ED.

EDUC. 745: SOCIAL PSYCHOLOGY:

Introduction to general social psychology. Relations between social psychology and personality; individual behaviour, characteristics and the social process. Effects on learning, motivation and attitudes. Group and group organization and their effect on individual behaviour and performance. Group tasks and control, especially in industry.

Lecture — 40 hrs. C.F. 4
Y3 T1 — DT, FT.

280

BEST COPY AVAILABLE

EDUC. 740: PRINCIPLES OF EDUCATION:

Adapting principles of child growth and development to teaching situations. Basic concepts of learning and teaching; Planning and stating educational objectives; Application of basic principles of learning and teaching to problem solving. The nature of evaluation, measuring and predicting pupil progress.

Lecture — 30 hrs. C.F. 3
Y2 T2 — HEC.

EDUC. 751: INTRODUCTION TO RURAL SOCIOLOGY:

Analysis of human society and the individual as a member of the family, the community and other social systems. Rural sociology and its importance; Culture — its importance, cultural change, and effects of the change, Group relations; Kinds of groups and their importance; Social structure and its implications to social change; Power and community decision making process; Social institutions; Social change diffusion and adoption process; Adult learning.

Lecture — 30 hrs. C.F. 3
Y2 T3 — All streams except DT, ED, FT.

EDUC. 752: PRINCIPLES OF EXTENSION EDUCATION:

Role and functions of Extension in agricultural and rural development with particular reference to developing countries; Historical background of the development of extension services and its present organizational structure. scope of work, long and short term goals and problems in relation to the basic principles and philosophy of extension education; the duties and responsibilities of extension educators in comparative or similar systems.

Lecture — 20 hrs. C.F. 2 (30 hrs. C.F. 3 for ED, AHE)
Y2 T3 — ED.
Y3 T1 — All streams except DT. & FT.
Y3 T1 — AHE.

EDUC. 753: EXTENSION PROGRAMME PLANNING TEACHING
METHODS AND EVALUATION:

The need for the extension programme plan; Principles of extension; programme planning and the planning process; Essential elements in the programme planning process and programme implementation; Extension teaching methods and their role in programme implementation; the methods should include individual, group and mass methods; Evaluation of extension programmes - principles, purposes and kinds of evaluation

Lecture - 30 hrs. C.F.3

Y3 T2 - All streams except DT, ED, FT.

EDUC. 754: GROUP DYNAMICS:

Analysis of human groups and group processes as part of society and as social process. Group formation and function in societal and cultural change. Leadership development and role in rural Development; Role of groups and group leadership in formal and non-formal educational development.

Lecture - 30 hrs. C.F.3

YT T2 - ED.

Y3 T1 - FM

EDUC. 755: PRINCIPLES OF ADULT EDUCATION:

The meaning scope and importance of adult education in developing countries; Policy and organization of adult education in Kenya; Programme planning in Adult Education; the adult learner (who they are, why they attend, differences between a class of adults and class of school children; physical changes of adults); Some principles for promoting effective learning; Methods and techniques of teaching adults effectively; Evaluation of adult education programmes.

Lecture - 20 hrs. C.F.2

Y3 T3 - ED

EDUC. 756: GOVERNMENT PROCEDURE.

General introduction; Government organization and administration; Principles and theories of administration; Important consideration on joining the Government — some preliminary procedural matters to be dealt with at the time of entry; Staff functions and responsibilities.

Lecture — 20 hrs. C.F. 2

Y3 T3 — All streams except ED.

APPENDIX VIII
BUKURA AGRICULTURAL INSTITUTE
FARM MANAGEMENT AND EXTENSION DEPARTMENT

290

276

BUKURA AGRICULTURAL INSTITUTE
FARM MANAGEMENT AND EXTENSION DEPARTMENT

AGRICULTURAL EXTENSION (CODE NO. - 04)

COURSE:	TOPIC:	CONTENT:
<u>1</u> <u>Extension</u> <u>Education and</u> <u>Rural</u> <u>Development</u>	1:1 Economic growth and development.	Lectures on:- i) growth and development ii) under development
	1:2 Role of Agriculture in economic development	
	1:3 Population and food supply	- Population as a subject of world concern - factors responsible for increasing food problems and how to minimize the problem.
	1:4 Kenya's rural development policy and approaches	- concept of rural development. - The Countries objectives - approaches/integrated rural development (I.A.D.P.) agrarian reforms, special rural development programmes etc.
	1:5 Agricultural Extension meaning and objectives	- Lectures to cover definition of Agricultural Extension, aims characteristics and principles.
	1:6 Role of agricultural extension in economic and agricultural development	Discussions and lectures on:- - need for maximum development of Agricultural industry. - Extension as a key factor in promoting or enhancing i) The essentials of Agricultural development ii) Accelerators of agricultural development

COURSE	TOPIC:	CONTENT:
	1:7 Kenya's population policy	- reasons for rapid population increase and resulting problems - Projections of possible increases by the year 2000. - Government programmes aimed at arresting the situation.
<u>2</u> <u>Rural</u> <u>Sociology</u>	2:1 Meaning of Sociology and inter-relationship with other disciplines	- Definition of sociology/rural sociology related sciences, economics, psychology, anthropology, political science etc. - Definition of some common terms and concepts i.e. custom, role, social action, culture etc.
	2:2 Society	- Definition - Social structure - Succession and inheritance; patrilineal and matrilineal etc. - Social action - customs, norms, extended family relationships etc. - Model of social system - Leadership in society, levels and types
	2:3 Elements of social processes	- Communication; institutionalization; decision-making etc.

...../14

COURSE	TOPIC:	CONTENT:
	2:4 Group dynamics	- Basic parts of group process - Internal and external dynamics of groups
	2:5 Social change	- Meaning - Classification - Levels at which changes can occur individual and social levels - Barriers to social change - Factors which motivate people to accept new ideas and practices
<u>3</u> Communication in Extension Education	3:1 Characteristics of adult learners	
	3:2 Basic steps in learning	- Awareness, interest evaluation, trial and adoption
	3:3 Adopter categories	- Innovators, early adopters, early majority late majority and laggards
	3:4 The communication process	- "S - M - C - R" - Factors influencing diffusion of innovations - Diffusion process
	3:5 Extension teaching methods	Lectures and discussions on:

- i) Individual methods
- ii) Group methods
- iii) Mass methods, demonstrations and practicals on making simple teaching aids i.e. flannel-graphs, combination visual aids, posters etc. and use of projected visual aids

3:6 Extension campaigns

- Lectures to cover purpose, planning and implementation
-

4
Some methods of
research

4:1 Meaning and purpose of research

4:2 Planning a field survey

- Determination of purpose
- Organizing the survey/planning
- Selecting methods to be used

4:3 Questionnaire construction and other methods of collecting data

- Exercises and lectures on
- What a questionnaire is all about
- Types of questionnaires
- Pretesting a questionnaire

Other methods: -

- Observation
 - Interviews
 - Case study
-

...../16

4:4 Sampling	- Size of sample, why sample, sampling methods
4:5 Primary and secondary data	- Sources of primary data and those of secondary data, their differences
4:6 Variables in farm data collection and their measurement	- Reassurements of yield, income, labour etc. and their variation with different situations
4:7 Tabulation and analysis of data	Exercises and lectures on construction of graphs - Numerical counts, percentages, mean, median, mode, standard deviation Simple correlation Simple regression and tests of significance
4:8 Report writing and compilation of special projects	- Includes data presentation i.e. charts, graphs, etc. - Composed of instruction, main body and conclusion

5
Planning and
evaluation

5:1 Meaning and purpose of planning	
5:2 Principles and approaches in programme planning	- Lectures to cover analysis of situations, basis on recognized needs, etc. - Approaches i) development of programmes by communities or neighbours

...../17

- ii) Programme development by commodities and projects
- iii) A combination of the two

5:3 Steps in extension programme planning

- (a) Situation analysis
- (b) Organization for planning
- (c) Programme planning process
- (d) The planned programme
- (e) Plan of work
- (f) Execution of plan of work
- (g) Appraisal of accomplishments

5:4 Planning at implementation level

- Requirements i.e. sound knowledge of subject, selection of methods etc.

5:5 Evaluation

- Scope of evaluation
- Aspects to evaluate

5:6 Planning and conducting an

- Exercises and lectures on:
 - Selection of problem demanding investigation
 - Clear formulation of aspect to be measured
 - Determination of kind of information needed
 - Collection of the information
 - Planning on use of obtained information
-

6

Functional structure
of field services in Kenya
and the place of a T.A.

6:1 Structure of rural
hierarchies in Kenya

- Guest lectures and class discussions to cover existing bureaucracies such as
- DCs to Assistant Chief
- Provincial director of Social Services to community development officer
- Provincial Education Officer to school teachers
- Provincial Medical Officer to health assistants
- Structure of Ministry of Agriculture and Co-operatives
- Others e.g. K.T.D.A., C.C.K., etc.
- Functions of each agent with emphasis on T.A., D.A.O., D.C. and Assistant Chiefs

6:2 Some possible areas
of co-ordination between
T.A.s and other change
agents

- Guest lecturers and class discussions to deal with
- Role played by the agents i.e. who to render which technical advice

6:3 Administrative
procedure

- Class discussions on agricultural legislation, code of regulations etc.

6:4 Kenya's agricultural
development plan

- Review of plan in current use with emphasis on the Ministry of Agriculture

...../19

COURSE:	TOPIC:	CONTENT:
	6:5 Rural youth programmes in Kenya	- Philosophy of Rural Youth Work - Basic factors in organizing a rural youth programme - Youth organization in Kenya: 4-E Clubs, Young Farmers Clubs

21/9/78

(A.C. OMOLO)
HEAD: FARM MANAGEMENT & EXTENSION DEPARTMENT